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Lake County

Stormwater Pollution Prevention Plan

Guidance Manual

Latest Revision: March 1, 2004

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APPENDICES

Chapter
1

Stormwater Pollution Prevention Plan (SWP^3)

General

Background

This guidance manual has been created to provide Engineers with a tool to assist with the creation of Stormwater Pollution Prevention Plans (SWP^{3}s) for grading and construction sites. SWP^{3}s are required to be provided to the Lake County Stormwater Management Department (LCSMD) and/or the Lake County Soil and Water Conservation District (LCSWCD) prior to project approval or construction activity. This manual discusses what issues will be reviewed by LCSMD and LCSWCD and provides guidance as to how to meet those requirements. The information provided in this manual has been compiled from the Ohio EPA General Construction Permit No. OHC00002 (effective April 21, 2003 to April 20, 2008). More information on how to meet the conditions of the permit can be found in the latest edition of the Ohio Rainwater and Land Development, Ohio's Standard for Stormwater Management, Land Development and Urban Stream Protection manual.

The Ohio EPA General Construction Permit can be found at http://www.epa.state.oh.us/dsw/permits/final_constr_GP.html

The manual provides design guidance for any site disturbing one acre or greater. For the designer's convenience, a CD has also been provided at the end of this document with an assortment of detail drawings and general notes that can be used on design plans.

A Notice of Intent (NOI) must be submitted to Ohio EPA 21 days prior to the commencement of any construction activity (NOI included in Appendix A). An approved SWP^3, the NOI, and the letter from the Ohio EPA director granting permit coverage must be immediately available on-site during working hours. The SWP^3 must be amended whenever there is a change in design, construction, operation, or maintenance which affects the potential for the discharge of pollutants or the SWP^3 proves to be ineffective.

A CD has been provided in Appendix G that contains sample general notes for inclusion on plans.

Important Note: The development of a SWP^3 for the LCSMD does not relieve the owner/applicant from the responsibility to obtain all other necessary permits or approvals from Federal, State, County or local agencies.

Chapter
2

SWP^3

Accompanying Documentation

Background

Operations that disturb more than one acre of land, or that are part of a larger common plan of development such as residential or commercial subdivisions, are required to submit a SWP^3. The SWP^3 must include a detailed site description.

Site Description Narrative

The following items must be included in the narrative related to the site description.

1. The nature and type of construction activity (ex. low density residential, commercial, industrial, roadway, utility, etc.).

2. Description of the total area of the site that will be disturbed during construction. This includes areas located off-site, such as borrow and fill areas.

3. Calculations for the pre-construction and post-construction runoff coefficients. These runoff coefficients must be calculated using the following table.

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Industry Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

• Table 1. OEPA Permit OHC000002, Part III.G.2.e

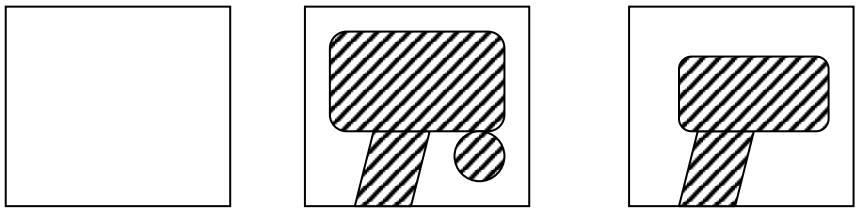
A weighted average must be calculated for mixed land uses.

Example: Site has 60% low density residential, 30% high density residential and 10% open space.

Calculation: (0.6) (0.3) + (0.3) (0.5) + (0.1) (0.2) = 0.35

4. An estimate of the percentage of the site that was impervious before construction and percentage after construction is complete.

   Example:



Pre-construction – o% impervious

During construction – 80% impervious

After construction – 50% impervious

During construction, all cleared and graded areas are considered impervious.

5. A description of the soils on the property.

6. Report on any prior water quality monitoring completed at the site.

7. Information about prior land uses at the site.

8. An implementation schedule for the sequence of all major construction activities and the implementation of erosion, sediment and stormwater management practices or facilities as they relate to each major construction activity. This information should be very specific, including step by step instruction. If more than one contractor is responsible to complete activities, then the task of each contractor should be specified.

   Example:

   <u>Sequence of Construction:</u>
   a. Clear – Contractor A
   b. Install sediment traps – Contractor A
   c. Grub – Contractor B
   d. Adjust sediment traps if topography has been altered – Contractor B
   e. Etc.

   More detailed examples can be found in Appendix B.

9. Name(s) and location(s) of all receiving streams. This can be a verbal description, but a map would also be acceptable.

   Example:

   Unnamed tributary (0.1 mi) – Red Creek (0.5 mi) – Grand River (1.2 mi) – Lake Erie (0.4 mi) (distances to confluence)

10. A description of all wetlands or other special aquatic sites which will be disturbed and/or are a receiving water for site runoff. A map of the wetland boundary should also be included.

11. The location and description of stormwater discharges associated with dedicated asphalt and/or concrete batch plants covered by the NPDES Construction Stormwater General Permit. Best management practices (BMP) are required to be specified for the plants associated with road projects.

12. Descriptive and technical documentation to support the selection of particular post-construction BMPs. See Chapter 5 for a more detailed description of these requirements.

13. A copy of the NPDES Construction Stormwater General Permit.

A fill-in-the-blank type form is included in Appendix C that, if filled out properly, will assist designers meet the Site Description provision of the General Construction Permit.

Chapter
3

SWP^3

Site Plan Requirements

Background

The General Construction Permit requires that several specific components be shown on the detailed site plan for proposed projects. The SWP^3 cannot be approved unless these items are shown, or there is a compelling reason why they are not. A detailed explanation as to why something has been excluded must be included in the SWP^3 or the plans cannot be approved by LCSMD.

Detailed Site Plan Requirements

The detailed site plan for the proposed project must include several items to conform to the Ohio EPA General Construction Permit. These items include:

1. Limits of earth-disturbing activity including an associated off-site areas (ex. borrow or spill areas).

2. Soils types for all areas of the site. Special attention should be given to unstable or highly erodible soils.

3. Existing and proposed contours.

4. Existing and proposed drainage watersheds including the size of each watershed in acres (this is for the full drainage area, not just the site).

5. Surface water locations including springs, wetlands, streams, lakes, water wells, etc. on or within 200 feet of the site.

6. Boundaries for wetlands or stream channels and first subsequent named receiving water(s) that the project intends to fill or relocate (must seek approval from Army Corps of Engineers and/or Ohio EPA for this).

7. Existing and proposed buildings, roads, parking facilities, and utilities.

8. Location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development.

9. Location of sediment and stormwater management basins noting their settling volume and contributing drainage area (during construction and after).

10. Location of permanent stormwater management practices to be used to control pollutants in stormwater after construction operations have been completed.

11. Areas designated for the storage or disposal of solid, sanitary, and toxic wastes (including dumpsters areas)

12. Areas designated for concrete truck washout

13. Areas designated for vehicle fueling.

14. Location of designated construction entrances where the vehicles will enter and exit the construction site. This is not required on a linear project. A detail for the construction of the entrance must be included.

15. Location of any in-stream activities including stream crossings.

16. Detailed drawings of a typical individual lot with sediment and erosion controls for projects without centralized sediment controls (ex. residential sublot of a subdivision).

17. Detail drawings for all sediment control devices.

Chapter
4

SWP^3

Erosion and Sediment Control

Background

It is important to make use of practices that preserve the existing natural condition of the site as much as feasible. Proper sediment and erosion controls can significantly reduce the impact of construction on the natural environment.

Land Disturbance

Every effort must be made to minimize the amount of land disturbed on the site both during construction and after. If land disturbance is necessary, then construction should be phased to minimize the amount disturbed at any one time.

> ***Standard Notes (to be included on plan)***
>
> *Limits to clearing and grading shall be marked clearly on site before any grubbing or earth disturbing activity shall begin.*

Erosion Control

SWP^3 plans for development should be designed to minimize erosion. Erosion control generally requires a change in how a construction site is managed. For example, the practice of temporary seeding and mulching will typically be done several times during the course of construction. Temporary seeding & mulching may be disturbed several times during construction and replacement applications will be required. Erosion control is the most cost effective and efficient way to reduce sediment pollution. Permanent seeding and stabilization is required at the completion of construction activity.

The following tables outline the required stabilization for disturbed areas.

Temporary Stabilization	
Area	**Time Frame**
Any disturbed areas within 50 ft. of a stream, not at final grade	Within 2 days of the most recent disturbance if the area will remain idle for more than 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 days but less than one year	Within 7 days of the most recent disturbance within the area. For residential subdivisions, disturbed areas must be stabilized at least 7 days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to Nov. 1
Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.	

- Table 2. Ohio EPA Permit No. OHC000002, Part III.G.b.i

Permanent Stabilization	
Area	**Time Frame**
Any areas that will lie dormant for one year or more	Within 7 days of the most recent disturbance
Any areas within 50 ft. of a stream and at final grade	Within 2 days of reaching final grade
Any other areas at final grade	Within 7 days of reaching final grade within that area

- Table 1. Ohio EPA Permit No. OHC000002, Part III.G.b.i

There are several options for restabilizing areas in between construction operations. These include:

- Mulching (straw)
- Matting (jute, excelsior, or other rolled erosion control products)
- Sodding
- Temporary seeding

A more detailed description and specifications for these options can be found in the latest edition of the “Rainwater and Land Development” manual, prepared by ODNR.

Important Note: Whatever type of stabilization method is employed, time of year is a factor that must be considered.

See temporary/permanent seeding specification table below.

Standard Temporary/Permanent Seeding Specification (to be included on plan)

Seeding Dates	Species Mixes	Lbs./1,000 ft.^{2}	Per Acre
March 1 to August 15	Oats,	3	128 lb.
	Tall Fescue, and	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Perennial Ryegrass,	1	40 lb.
	Tall Fescue, and	1	40 lb.
	Annual Ryegrass	1	40 lb.
August 16 to November 1	Rye,	3	112 lb.
	Tall Fescue, and	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Wheat ,	3	120 lb.
	Tall Fescue, and	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Perennial Ryegrass,	1	40 lb.
	Tall Fescue, and	1	40 lb.
	Annual Ryegrass	1	40 lb.
November 1 to Spring Seeding	Use mulch only, Sodding practices, or dormant seeding		
Note: other approved seed species may be substituted			

Table from ODNR Rainwater and Land Development Manual

Standard Notes (to be included on plan)

Disturbed areas that will remain inactive for a period of twenty-one (21) days or longer shall be stabilized with seeding and mulching, or other appropriate means, within seven (7) days after earth moving ceases. Permanent soils stabilization shall be installed within seven (7) days after final grade is reached on any portion of the site.

Stabilize areas within fifty (50) feet of any stream or wetland within two (2) days on all inactive disturbed areas that will remain inactive for fourteen (14) days or longer.

All sediment ponds, sediment traps, earthen diversions or embankments shall be seeded and mulched within seven (7) days of completed construction.

Seeded areas shall be inspected and where the seed has not produced 80% cover shall be reseeded as necessary by the contractor. Areas shall be stabilized with mulch when conditions prohibit seeding.

Straw mulching shall be applied at a rate of 2-3 standard 45-lb. bales per 1000 sq.ft. of disturbed area or two (2) tons per acre. All hydroseeding must be straw mulched according to the above specifications unless it is watered weekly.

Runoff Control

Runoff must be controlled from disturbed areas to prevent erosion from occurring. Practices to control the runoff can include:

- Rock check dams (reduce flow velocities)
- Diversions to direct flow away from exposed soils
- Protective grading practices (tracking, stair-step grading, grooving)
- Pipe slope drains (divert concentrated flow)

These practices should be implemented to direct runoff away from disturbed areas and protect steep slopes where possible.

Specific design guidance for the runoff control practices listed above can be found in the latest edition of the “Rainwater and Land Development” manual, prepared by ODNR.

Sediment Control

Sediment control devices must be constructed for all areas on the site that will remain disturbed for over 14 days. Consideration must be given to how much acreage will be disturbed when the controls are selected.

Options for sediment control include:

- Sediment settling ponds and sediment traps
- Silt fences (sheet erosion only)

- Earth diversion dikes or channels which direct runoff to a sediment settling pond or vegetated settling area
- Storm drain inlet protection

All sediment controls must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless they are used in conjunction with a sediment settling pond or settling area.

Detailed drawings of all sediment control devices are to be included on the plans.

It is important to remember that sediment controls must be installed within 7 days of clearing/grubbing activities. Also, as the site develops, consideration must be given to changing slopes and topography and provisions must be made to ensure the proper operation of the sediment control devices over all phases of the project.

Sediment Settling Ponds

If it is found that the concentrated runoff from the site will exceed the design capacity of a silt fence or inlet protection, a sediment settling pond must be used. A sediment settling pond is also required for any site with greater than 10 acres of disturbance. Sites with less than 10 acres of disturbed area can construct smaller sediment basins or traps.

If the designer proposes to use an alternate method when a sediment settling pond is required, they must request approval from Ohio EPA and LCSMD. In order to receive approval the alternate method must be shown to be equivalent in effectiveness.

Pond specifications:

Item	Details
Size	Greater than or equal to 67 yd^3 (0.04 ac.-ft.) of storage per acre of total contributing drainage area
Depth	Less than or equal to 5 ft.
Configuration of inlet to outlet	>2:1 length to width (see Fig. 1)

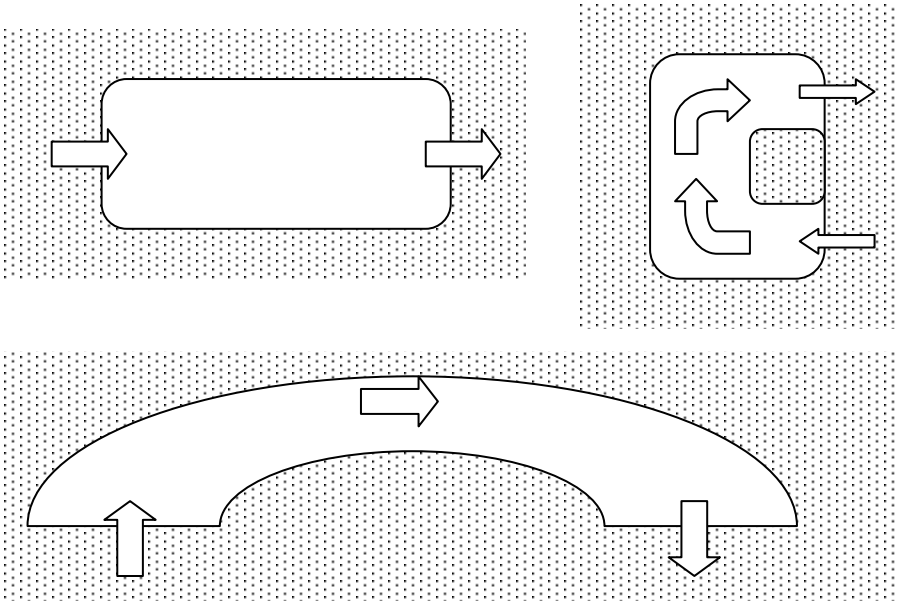


Figure 1. Flow Routing Example

Inlet to outlet design must ensure that short circuiting is prevented.

Sediment must be removed from the pond when sediment reduces the design volume by 40%. This is typically when the sediment depth is half the basin depth.

Public safety must be considered when designing a sediment settling pond, especially as it relates to children. Alternate sediment controls must be used where the site limits a safe design.

Silt Fence / Diversions

Sheet flow from denuded areas must be intercepted by silt fences or diversions to protect adjacent property and watercourses from sediment transport.

Silt fences are only to be used for sheet flow situations and must be constructed on the level contour. The maximum drainage area allowed behind the silt fence for a particular slope is detailed below:

Maximum Drainage Area to 100 Linear Feet of Silt Fence (in acres)	Range of Slope for a Particular Drainage Area (in percent)
0.5	<2
0.25	≥2 but <20
0.125	≥20 but <50

Runoff diversions must be used to keep runoff away from disturbed areas and steep slopes, where practical. Diversions structures can include:

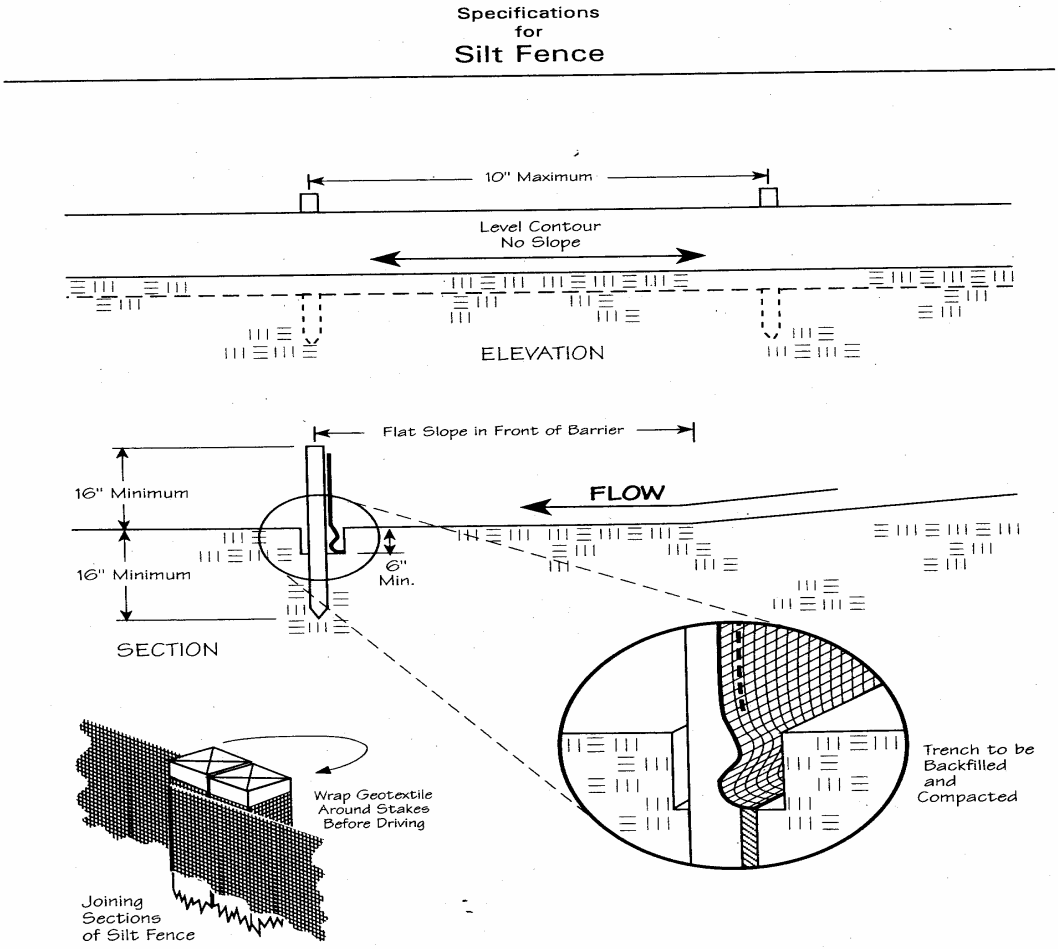
- Grassed Swales,
- Grassed Dikes or Berms.

These devices may only be used for areas that receive stormwater from less than 10 acres.

Where any of the above criteria are exceeded, a diversion directing runoff to a sediment- settling pond is required.

More detailed design information for silt fences and diversions can be found in the latest edition of the ODNR Rainwater and Land Development Manual.

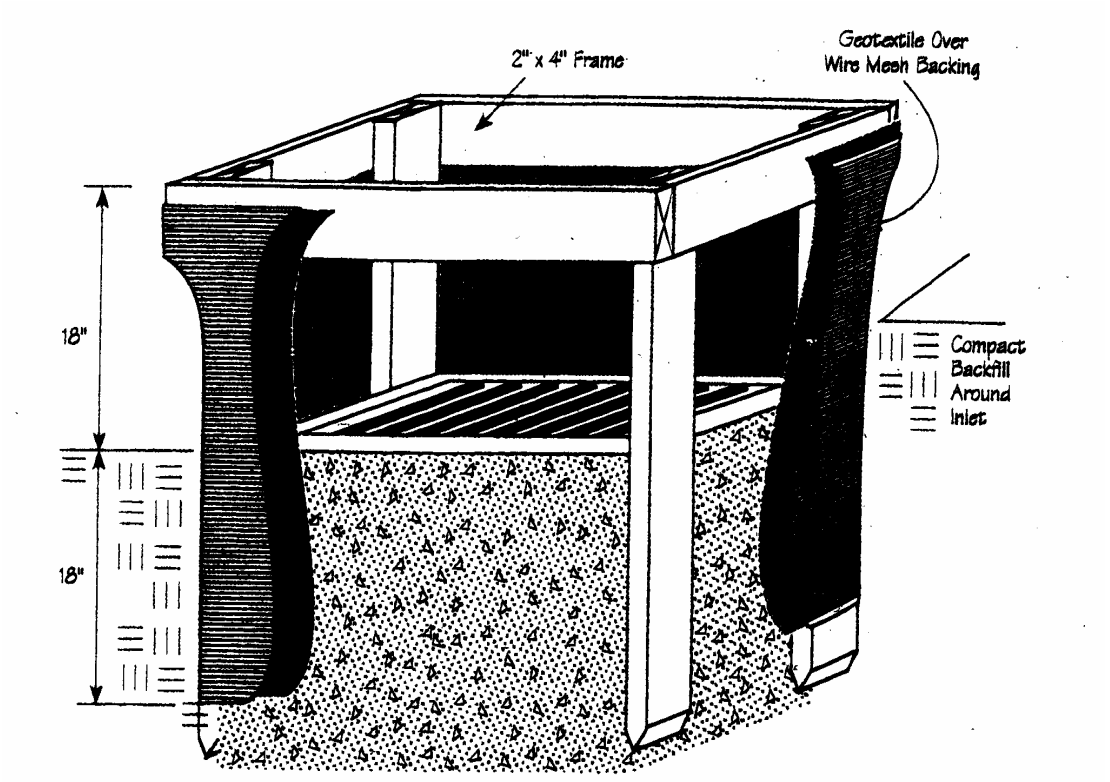
Standard Detail (to be listed with installation and maintenance specifications)



Inlet Protection

Flow of sediment-laden water into an active storm drain system must be minimized, unless the storm drain system drains to a sediment-settling pond. If a structural practice such as curb inlet protection is not used, then it is important that another program be maintained. There are several non-structural options which may be employed for protecting the drainage system including silt fences across lot frontage, prompt seeding and mulching, street cleaning, and on-lot construction entrances.

Standard Detail (to be listed with installation and maintenance specifications)



Stream Protection

The natural riparian setback adjacent to streams or other surface waters should be preserved during and after construction. Recommended riparian setback standards are as follows:

Square Mileage of Watershed	Buffer Size on either side of stream
0 – 2.5 miles^2	25 ft.
2.5 – 5 miles^2	40 ft.
5 – 10 miles^2	50 ft.
10 – 20 miles^2	75 ft.
20 – 50 miles^2	100 ft.
> 50 miles^2	120 .ft

- Table 1. Lake County, Ohio Subdivision Regulations, p. 33

If construction activities disturb areas adjacent to streams, structural controls must be designed to protect the stream from the impacts of sediment-laden runoff. These structural controls shall not be installed in-stream.

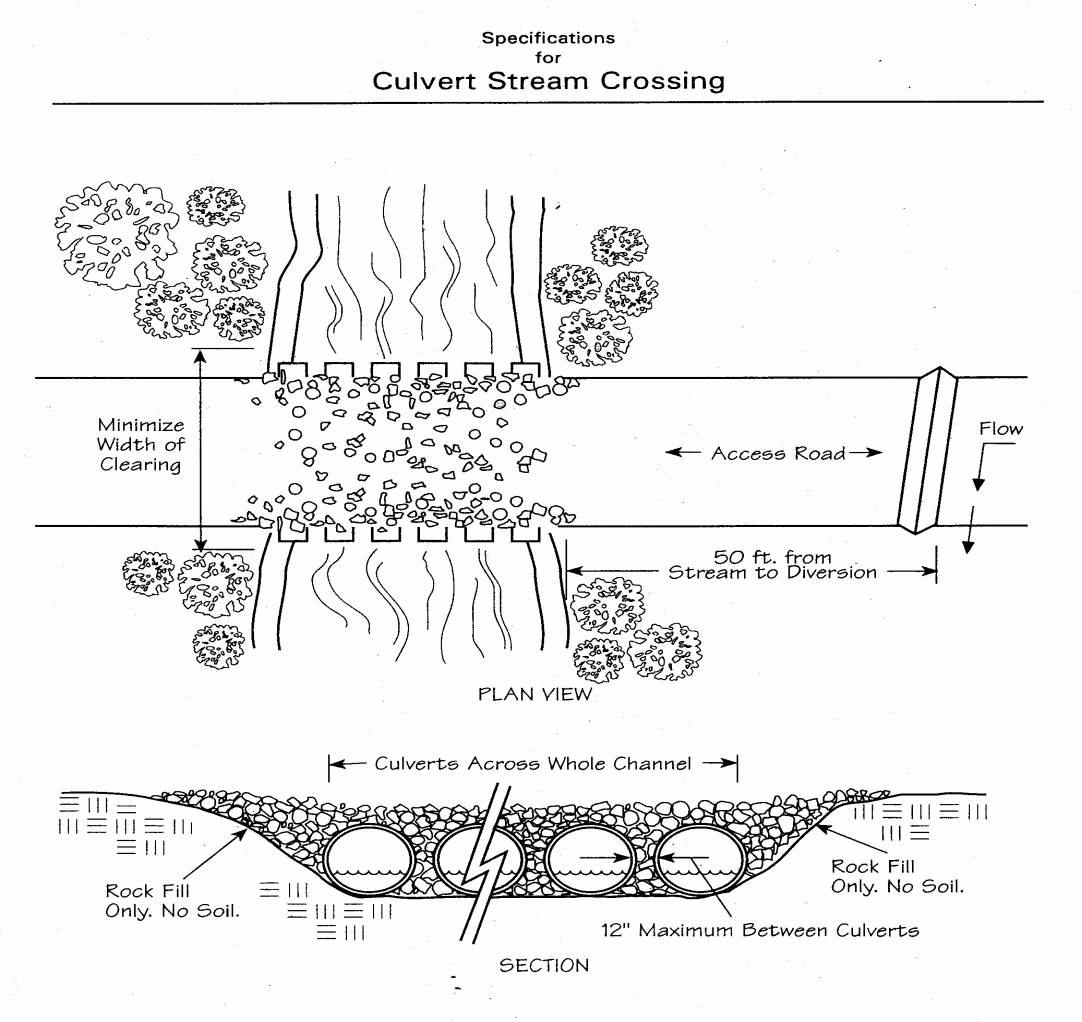
A minimum 25-foot setback from the watercourse's floodway or ordinary high water mark of the watercourse is recommended to maintain a natural permanent buffer. In places that impacts within the buffer area are unavoidable due to the nature of the construction activities (i.e. utility crossings), the number of stream crossings and the width of the disturbance must be minimized.

Important Note: Seeding and mulching within 50 feet of the stream shall occur within two days if these areas are to remain inactive for fourteen days or longer.

Stream Crossings

Culverted stream crossings are to be constructed entirely of stone, rock, or clean recycled concrete- never soil. They are to be constructed in a way that minimizes the disturbance of a bed and bank of the stream as much as possible. Existing stream bank vegetation shall be preserved to the maximum extent practical and the crossing shall be as narrow as practical.

Standard Detail (to be listed with installation and maintenance specifications)



Standard Notes (to be included on plan)

Sediment control shall be accomplished by seeding and mulching all disturbed areas immediately upon completion of excavation or fill and finish grading in accordance with specifications of the ODNR Rainwater and Land Development Manual.

Sediment ponds, sediment traps, and perimeter sediment controls, shall be implemented as the first step of grading and within seven (7) days from the start of grubbing. They shall continue to function until disturbed areas are re-established with temporary vegetation. No sediment controls shall be placed in a stream.

All sediment ponds, sediment traps, earthen diversions or embankments shall be seeded and mulched within seven (7) days of completed construction.

Stabilize areas within fifty (50) feet of any stream or wetland within two (2) days on all inactive disturbed areas that will remain inactive for fourteen (14) days or longer.

Stream crossings shall be constructed entirely of stone, rock, or clean recycled concrete. Soil or earthen material may not be used. A twenty-foot (20) stone apron on either side of the stream shall be constructed to prevent localized sedimentation. All disturbed areas of the bank within fifty (50) feet of the stream shall be stabilized with seed and mulch within 2 days of the disturbance.

Trench Dewatering and Groundwater Controls

Sediment laden water that is removed from trenches or other facilities is to be directed to a sediment-settling pond or other equally effective sediment control device. Alternatively, the sediment can be removed by settling in place, dewatering into a sump pit, filter bag or a comparable practice.

Groundwater dewatering which does not contain sediment or other pollutants does not require treatment prior to discharge although a non-erosive channel must be provided for it's conveyance.

Dewatering activities shall not cause turbid discharges to surface waters.

Important Note: At no time can an untreated discharge from a basement, footer drain, trench, borrow pit, or any other sediment laden depression be pumped directly onto the street or into a storm sewer inlet.

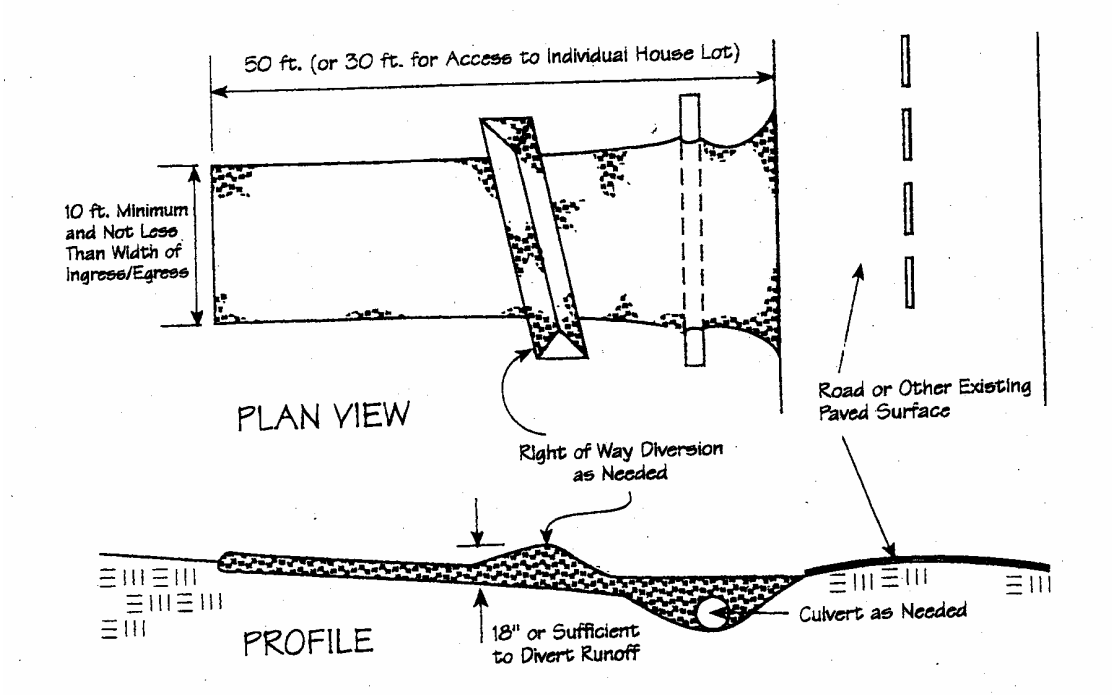
Standard Notes (to be included on plan)

Trench dewatering or ground water, which contains sediment shall pass through a sediment- settling pond or equally effective sediment control device. Alternatives may include dewatering into sump pit, filter bag or existing vegetated upslope area. Sediment laden water shall not be discharged to streams or the storm sewer system.

Site Traffic

Sediment and dust generation from vehicle traffic must be minimized. Construction entrances shall be utilized by all contractor traffic and maintained throughout construction.

Standard Detail (to be listed with installation and maintenance specifications)



Standard Notes (to be included on plan)

Construction entrances shall be installed at all ingress and egress locations to eliminate off-site vehicle tracking of sediments. Sediments shall be removed from roadways daily.

Inspections

The contractor is responsible to have qualified inspection personnel conduct an inspection of the site every seven days, at a minimum. Additionally, inspections are required within 24 hours of a storm event greater than 0.5 inches of rain per 24-hour period. All disturbed areas, material storage areas, erosion and sediment control devices/measures, discharge locations and vehicle access points must be inspected and deemed to be operating properly.

Standard Notes (to be included on plan)

The contractor shall be responsible for erosion control maintenance and inspections on a weekly basis and after all rain events producing ½" of rain per 24 hours. A written record documenting the results of these inspections must be created and maintained with the SWP3.

Maintenance

Controls must be repaired or maintained to ensure continued performance of their intended function. They must remain functional until all upslope areas are permanently stabilized. Sediment control structures must be repaired or properly maintained within 7 days of a failed inspection. All other controls must be repaired or properly maintained within 3 days of a failed inspection or when needed.

> ***Standard Notes (to be included on plan)***
>
> *Contractor shall comply with the maintenance schedule included in the approved plans for the proposed erosion controls. A written document containing the signatures of all contractors and sub-contractors involved in the implementation of the SWP3 must be maintained as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3.*
>
> *Additional erosion control BM's may be mandated by the governing agency.*

Single Lot Erosion and Sediment Control Requirements

The site plans for individual lots must show erosion and sediment controls including accompanying erosion control notes. Each site plan must reflect existing and proposed topography and building conditions and have the erosion and sediment controls designed to reflect that. Each individual site plan is also required to have labeled topography (at 1-foot intervals), street names, sublot numbers, the subdivision name, and date. The following BMPs are required to be shown on the site plans for a single lot:

- Stoned construction entrance underlain with the appropriate geotextile
- Temporary seeding and mulching of all disturbed areas (first 30' from street) and stormwater facilities within the rights-of-way
- Storm sewer inlet protection for rear yard drains and catch basins
- Temporary seeding within 50 feet of any stream or wetland
- Silt fencing (where necessary)
- Concrete washout basin

A sample single lot site plan has been included in Appendix D. Standards and specifications for these practices can be found in the latest edition of the ODNR Rainwater and Land Development Manual.

Chapter
5

SWP^3

Post Construction Stormwater Management

Background

Post-construction stormwater management practices are to protect stormwater runoff quality and quantity. This in turn will protect the physical, chemical and biological characteristics of the receiving stream. The SWP^3 is to contain a description of the post-construction best management practices (BMPs) as well as the rationale for their selection. The rationale must include possible impacts on the morphology, hydrology and water quality of the receiving stream.

Exclusions

Linear construction projects (ex. Pipeline or utility installation) which do not result in the construction of an impervious surface are not required to include post-construction BMPs in their SWP^3. However, linear projects must be designed to minimize stream crossings and the width of disturbance.

Public entities (ie. state, counties, villages, cities, or townships) are excluded from post-construction BMP compliance for **roadway projects initiated before March 10, 2006 (**see ODOT supplemental specification 832 and 833).

Post-Construction BMPs

Post-construction BMPs are required for all construction projects disturbing more than one acre (except for the exclusion noted above). Longterm maintenance plans must be provided to the site operator once construction of structural BMPs has been completed. A copy of the Maintenance Plan must be submitted to LCSMD prior to completion of construction and operation of stormwater management facilities (see Appendix E for a sample plan). It is also suggested that a contract be completed for proper operation of those facilities.

Design guidance has been broken into two categories. Small construction sites are considered sites that will disturb between 1 and 5 acres of land that are not part of a larger common plan. Large construction sites are those disturbing 5 acres or more or that are part of a larger common plan of development such as subdivisions.

Small Construction Activities (1 to 5 acres of disturbance)

On small construction sites, measures must be included in the design to control pollutants in stormwater discharges after construction is complete. All structural measures should be placed on upland slopes, if possible.

Structural BMPs that may be used include but are not limited to:

- Stormwater detention structures
- Stormwater retention structures
- Open vegetated swales and natural swales for flow attenuation
- Infiltration of runoff onsite
- A combination of several practices that control pollutants

The SWP^3 must include an explanation of the technical basis used to select the BMP where flows exceed pre-development levels.

Non-structural BMPs may also be used (ex. Signage, stenciling, etc.), but the SWP^3 must include a detailed description of what will be used and why.

Designers must be aware that the selected BMP(s) must be site specific. For example, a gas station must have an oil/water separator installed.

Whichever method of post-construction BMP is selected, velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel. These devices are required to limit erosion in the existing watercourse and ensure that there are no significant changes to the receiving water hydrology.

Large Construction Sites (≥ 5 acres disturbance)

Post-construction BMP(s) are required for all construction sites that will disturb five or more acres of land in order to detain stormwater runoff for the protection of the stream channel, for erosion control and improved water quality. The selected BMP(s) must be a permanent structural part of the site drainage system, must be sized to treat the water quality volume (WQ_v), and must comply with Ohio's Water Quality Standards in OAC Chapter 3745-1. Consideration must also be given to flood control volume.

There are two methods that can be used to calculate the WQ_v:

1. Through a site-specific hydrologic study. The local long-term hourly precipitation records must be used.

2. Using the following equation:

$WQ_v = C * P * A/12$

Where:

WQ_v = water quality volume in acre-feet
C = runoff coefficient (see Table below)
P = 0.75 inches of precipitation depth
A = area draining into BMP in acres (includes offsite area)

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Industry Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

• Table 1. OEPA Permit OHC000002, Part III.G.2.e

If a site has mixed uses, it is important to ensure that the runoff coefficient is calculated properly. A weighted average of the above runoff coefficients must be used.

For example:

20% of the site is commercial
60% of the site is high density residential
20% of the site is open space

Runoff Coeff. (total) = (%/100)*C1+ (%/100)*C2+(%/100)*C3+ etc
$C_T = (0.20)(0.8) + (0.60)(0.5) + (0.20)(0.2)$
$C_T = 0.5$

There are several structural BMPs that can be used to provide post-construction stormwater management. These include:

- Water quality ponds
- Infiltration trench

- Sand filter
- Grass filter
- Bioretention area

Detailed design guidance can be found in the latest edition of the "Land Development and Rainwater Manual" produced by ODNR. It should be noted that if the structural BMP selected will be used for sediment storage and/or has reduced infiltration capacity, the WQ_v must be increased by an additional 20%.

Required drain times for the structural post-construction BMPs are as follows:

BMP	Drain Time of WQ_v
Infiltration	24 – 48 hours
Vegetated Swale and Filter Strip	24 hours
Extended Detention Basin (Dry Basins)	48 hours
Retention Basins (Wet Basins)*	24 hours
Constructed Wetlands (above permanent pool)	24 hours
Media Filtration, Bioretention	40 hours

* Provide both a permanent pool and an extended detention volume above the permanent pool, each sized at 0.75 * WQ_v

- Table 2. OEPA Permit OHC000002, Part III.G.2.e

If the designer chooses to use a BMP other than those listed in the above table, it must have equivalent effectiveness. In other words, it must be designed to drain over a minimum of 24 hours, it must have a total suspended solids removal of 85 – 88%, and it must capture 85% of the storms. Also, a plan must be submitted that identifies who is responsible for maintenance.

If a pre-existing drainage structure is going to be used to treat stormwater, it must be shown that it is sized appropriately to treat the WQ_v.

Redevelopment Projects

For redevelopment projects that disturb more than 5 acres of land, post-construction BMPs must ensure a 20% net reduction of the site impervious area or provide treatment for 20% of the WQv. A combination of the two may be acceptable.

Chapter
6

SWP^3

Non-Sediment Pollutant Controls

Background

No pollutant is allowed to be discharged in stormwater runoff. Pollutants include solids wastes other than sediment, including building materials, and liquid waste. Pollutants must be disposed of in a proper manner in accordance with local, state and federal regulations.

Toxic or Hazardous Materials

Plan general notes must include language on how to properly dispose of toxic or hazardous materials and procedures for proper spill clean up. This information can be general unless the designer has knowledge of a specific chemical being used on the site. The plans must provide areas for recycling of used or unused hazardous materials. This requirement has been implemented to eliminate the disposal of toxic and hazardous materials into storm drains, septic tanks, or by burying, burning or mixing the wastes.

Waste Disposal

Containers must be available on the construction site for the disposal of debris, trash, hazardous or petroleum wastes. All containers must be covered and leak-proof.

Clean Hard Fill

Clean hard fill is considered to be bricks, concrete and uncontaminated soil waste. Clean hard fill may be used on the construction site, but there should be language on the plans stating that it must have no contaminants.

Note: Check with the Lake County General Health District for more detailed information on what qualifies as clean hard fill.

Construction and Demolition Debris

All construction and demolition debris (CD&D) must be disposed of in an Ohio EPA approved CD&D landfill or a solid waste landfill. The plans must include a note that directs such debris to be disposed of in a proper manner. Open burning of construction waste or land clearing waste is not permitted.

Construction Chemical Debris

The plans must designate an area for mixing and storing of compounds such as fertilizers, lime, asphalt, or concrete. They should be stored inside if possible, or under a cover. The storage areas must be located away from watercourses, drainage ditches, field drains, or other stormwater drainage areas.

Equipment Fueling and Maintenance

The site plans must designate an area for fueling and/or performing vehicle maintenance. This area must be away from watercourses, drainage ditches, field drains, or other water drainage areas.

Any site that has one or more storage tank of 660 gallons or more, total above ground tank storage of 1330 gallons, or below ground tank storage of 42,000 gallons of fuel must prepare a Spill Prevention Control and Countermeasures (SPCC) plan.

Concrete Wash Waters

All concrete wash waters must be directed to a designated site located away from watercourses, drainage ditches, field drains, or other water drainage areas. This site must be shown on the plans and clearly identified on the construction site.

Contaminated Soils

Notes must be included on the site plans indicating the handling and disposal requirements for petroleum or other chemically contaminated soils.

Spill Reporting Requirements

The SWP^3 must include a note directing individuals to contact Ohio EPA at 800-282-9378, the local fire department, and the local emergency planning committee (440-951-5252) in the event of a spill of petroleum fuel (>25 gallons) or the presence of a sheen. On projects north of Route 2, the Coast Guard must also be notified.

Notes must also be present detailing a spill response for a small release (less than 25 gallons).

Open Burning

Open burning is prohibited.

Dust Controls/Suppressants

The SWP^3 should provide a note about the need for dust controls. If dust controls are required near catch basins, storm sewers or other drainage areas, inlet protection must be implemented. It should be noted that oil is strictly prohibited for use as a dust suppressant.

APPENDIX A

Notice of Intent

Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General Permit

(Read accompanying instructions carefully before completing this form)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment D of the NOI instructions for the appropriate processing fee)

I. Applicant Information/Mailing Address

Company (Applicant) Name: _____

Mailing (Applicant) Address: _____

City: _____ State: _____ Zip Code: _____

Contact Person: _____ Phone: _____ Fax: _____

Contact E-Mail Address: _____

II. Facility/Site Location Information

Facility Name: _____

Facility Address/Location: _____

City: _____ State: _____ Zip Code: _____

County(ies): _____ Township(s): _____

Facility Contact Person: _____ Phone: _____ Fax: _____

Facility Contact E-Mail Address: _____

Quarter: _____ Section(s): _____ Range: _____

Receiving Stream or MS4: _____

If aware of a state nature preserve within 1,000 feet of the facility/site, check here: ☐

Enter river code here, if discharge is to a river designated scenic, wild, or recreational, or to a tributary within 1,000 feet (see instructions): _____

General Permit Number: OHC000002 Initial Coverage: ☐ Renewal Coverage: ☐

Type of Activity: Construction Site Storm Water

SIC Code(s): - _____ - _____ - _____ - _____

Existing NPDES Permit Number: _____

ODNR Coal Mining Application Number: _____

Outfall:	Design Flow (MGD)	Latitude	Longitude

Other DSW Permits Required: _____

Proposed Project Start Date (MO DY YR): _____ Estimated Completion Date: (MO DY YR): _____

Total Land Disturbance (Acres): _____ MS4 Drainage Area (Square Miles): _____

Payment Information: Check # _____ Check Amount: _____ Date of Check: _____

For Ohio EPA Use Only

Check ID (OFA): _____

Person: _____

Place: _____

DOC #: _____

ORG #: _____

Rev. ID #: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Name: _____ Title: _____

Applicant Signature: _____ Date: _____

Click to clear all entered information CLEAR

Ohio EPA Instructions

Notice of Intent (NOI) Application form - For Requesting Coverage Under An Ohio Environmental Protection Agency General Permit

**** IMPORTANT****

DO NOT COMPLETE THE NOI WITHOUT FIRST READING THESE INSTRUCTIONS.

What is a NOI Application Form?

NOI stands for Notice of Intent. It is a one-page application form to request initial coverage or to renew coverage under a general permit. The applicant must certify their intention to comply with a general permit by submitting a complete NOI. The application shall be submitted to Ohio EPA's Central Office.

Who Must File a NOI Application Form?

Any discharge of water, with certain exceptions for storm water, from a point source must be covered by a permit from Ohio EPA. Federal regulations at 40 CFR 122 and the Ohio Revised Code at section 6111.04 prohibit point source discharges to waters of the state without first obtaining a National Pollutant Discharge Elimination System (NPDES) permit. This includes point source discharges of storm water associated with industrial and construction activity and certain municipal separate storm sewer systems (MS4s).

There are two types of NPDES permits; 1) individual permits and 2) general permits. A facility with a discharge must apply for one of these permits using either this NOI application form (for general permit coverage, assuming a general permit exists for the type of discharge) **OR** Form 1 and the appropriate supplementary forms (for an individual permit, which can be written for any type of discharge). If a facility applies for coverage under a general permit, and if all of the eligibility requirements of the general permit are not met, the facility will be required to submit an application for an individual permit. If a facility is eligible to be covered under the general permit and has additional waste streams that are not covered by the general permit, it is preferred that all discharges be covered by one permit (i.e., the individual permit).

Each applicant must meet the requirements found in the general permits regarding eligibility and applicability. **Do not** submit the NOI application form unless you meet **all** of those requirements.

The following is a list of the various discharges that may be covered by a general permit. Please note that these names are shortened versions of the actual names on the general permits.

General Permit Authorization to Discharge:	General Permit Number:
1. Industrial Storm Water	OHR000003
2. Construction Site Storm Water	OHC000002
3. Coal Surface Mining Activities	OHM000001
4. Non-contact Cooling Water	OHN000002
5. Petroleum Corrective Actions	OHU000002
6. Small Sanitary Dischargers	OHS000001
7. MS4 - Baseline	OHQ000001
8. MS4 - Rapidly Developing Watershed	OHQ100000

Where to file NOI Application Form

NOIs must be sent to the following address:

Ohio Environmental Protection Agency
Office of Fiscal Administration
P.O. Box 1049
Columbus, OH 43216-1049

**** IMPORTANT ****

Responses must be typewritten or printed legibly in the spaces provided. NOIs transmitted by FAX will not be accepted. Incomplete NOI application forms, including those submitted without the application fee, will be returned to the applicant for resubmission.

Completing the Form

All responses must be typewritten or printed legibly in the appropriate areas only. Please place each character slightly above the appropriate line on the NOI application form. If necessary, abbreviate to stay within the space allowed for each item. Use only one space for breaks between words. If the requested information does not apply to your facility, leave it blank. Do not include any symbols or punctuation marks unless otherwise noted in these instructions. Each NOI application form must be accompanied by a check for payment of the proper application fee. **Be sure to read the instructions printed at the top of NOI application form before completing the form.**

I. Applicant Information/Mailing Address

Company Name: Fill in the legal name of the firm, person, public organization, or other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the facility. The company name is the name of the responsible party that is the legal entity that controls the facility's operation rather than the plant or site manager. Do not use a colloquial name.

Mailing Address: Enter the complete mailing address; including street address, city, state, and zip code. The permit and any correspondence will be mailed to this address.

Contact Person: Give the name of a contact person who is responsible for addressing NPDES requirements.

Phone and Fax: Provide the contact person's phone and fax numbers as: area code exchange numbers.

E-Mail Address: Enter the contact person's e-mail address, if available.

II. Facility/Site Location Information

Facility Name: Enter the facility or site's official or legal name. The facility/site is the location of the operation and discharge to be covered by the general permit. Do not use a colloquial name.

Facility Address/Location: **Do NOT** enter P.O. Box numbers. Do **ONE** of the following:

1. Enter the facility's or site's complete physical address, including number and street, city/township, state, zip code, county, **OR**
2. If the facility lacks a street address, indicate the quarter, sections, county, township, and range (to the nearest quarter section) of the approximate center of the facility. If a site is located in more than one township and/or section, please list all townships/sections. The first listed township/section should be the

one that contains the main entrance to the facility. (If there is not adequate space provided on the NOI form, please provide an additional sheet of paper with this information.)

Facility Contact Person: Give the name of the person who is responsible for the facility/site.

Phone and Fax: Provide facility contact person's phone and fax numbers as: area code exchange numbers.

Facility Contact E-mail Address: Provide the facility contact person's e-mail address, if available.

IN THE CASE OF CONSTRUCTION ACTIVITY, attach an 8 1/2" x 11" site map to each NOI. The map shall clearly show the location of the project with its perimeter outlined and existing adjacent identifiable roads. The perimeter of the project are the boundaries that ground disturbance will occur within and for which a storm water pollution prevention plan has been developed. Provide the facility contact person and project name on the map.

IN THE CASE OF COAL SURFACE MINING OPERATIONS, provide quarter, sections, county, township, and range. Coal surface mine applicants are to attach to NOIs an 8 1/2" x 11" site map [using 7.5 min. United States Geological Survey (USGS) topo map]; the map shall clearly show the affected area and location of treatment ponds with outfalls labeled 001, 002, etc. Also, the map shall indicate whether the ponds are existing or proposed. The map shall be labeled with its USGS topo map name. For proposed ponds at new mine sites, the NOI will serve as a Permit-to-Install application. USGS maps are available from:

1. Map Distribution, US Geological Survey, Building 41, Box 25286, Federal Center, Denver, Colorado 80225;
2. Their website at http://mapping.usgs.gov
3. By calling USGS at 1 (888) ASK-USGS
4. Commercial map dealers, which would be listed in the phone book; or
5. A public library.

Quarter/Section Range: These must be completed if the facility or site does not have a street address. Please refer to the section above entitled "Facility Address/Location" for further explanation.

Receiving Stream or MS4: If a facility discharges directly to receiving water(s), enter the name of the receiving water. If the initial receiving water(s) does not have a name, then write as "unnamed tributary to" first subsequent water that has a name. It is important that the name of the receiving waterbody where the discharge directly goes is listed. If a facility discharges to more than one receiving stream, list all receiving streams (if necessary, attach a separate sheet of paper). An MS4 is defined as "a conveyance that is owned or operated by a state, city, town, township, county, district, association, or other public entity that is designed or used for collecting or conveying storm water." If you discharge storm water to an MS4, then enter the name of the operator of the municipal separate storm sewer system (MS4) (e.g. municipality name, county name,...).

"State Nature Preserve": If you are aware of a state nature preserve, in accordance with Ohio Revised Code 1517.05, within 1,000 feet of the boundaries of your facility/site, then place an "X" in the associated space. Otherwise, leave the space blank.

"River Code": If the facility's discharge is to a river designed as scenic, wild, or recreational, or to a tributary within 1,000 feet of one of these segments, enter the appropriate river code in this space. Please refer to Attachment A of these instructions for a list of river segments. Enter the appropriate code in this space. If a river code does not apply to the facility's receiving stream, leave the space blank.

General Permit Number: Enter the general permit number for which coverage is being sought (i.e. in the case of renewing coverage, do not use your current general permit number). The first two spaces of the number are "OH" and have already been placed on the NOI; fill in the remaining characters. Please refer to the above section entitled "Who Must File a NOI Form?" (front page of these instructions) for a list of general permit names and associated permit numbers. Do not enter any number in this space other than the general permit number for which coverage is being sought.

Initial/Renewal Coverage: The NOI form may be submitted to initiate first-time coverage under a general permit or to continue coverage under a renewed general permit. Place an "X" in the appropriate space.

Type of Activity: In the case of non-industrial storm water and construction site storm water discharges, enter the title of the general permit for which you are applying for coverage. Please refer to the above section entitled "Who Must File a NOI Form?" for a list of general permit names and numbers. Please note the names listed in that section are shortened versions of the actual names on the general permits.

1. Non-contact cooling water discharges **AND** Petroleum corrective actions: According to Part I.C.3. of these general permits, the applicant may request a waiver from the "limitations of coverage" if the applicant has an effluent monitoring requirement or limitation in their individual permit that is not in the applicable general permit. In order to request a waiver, enter "WAIVER REQUESTED" after the title of the general permit. Otherwise, as stated under Part I.C.2. of the permits, an applicant is not eligible for general permit coverage.
2. Industrial storm water discharges: For industrial facilities, enter "Ind SW" and for those included due to SIC codes, enter the description of the SIC code. This should be the primary activity of the facility. For industrial activities identified in 40 CFR 122.26(b)(14)(i)-(ix) and (xi) by narrative description, use the following 2-character codes in the space provided:

   HZ = Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA (40 CFR 122.26(b)(14)(iv));

   SE = Steam electric power generating facilities, including coal handling sites (40 CFR 122.26(b)(14)(vii)); or

   TW = Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage (40 CFR 122.26(b)(14)(ix)).

SIC Code(s): Industrial applicants must list (excluding construction activity storm water discharges), in descending order of significance, up to four 4-digit standard industrial classification (SIC) codes that best describe the principal product or services provided at the facility identified in Section II of this application. For storm water discharges defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi) that do not have SIC codes that accurately describe the principal products produced or services provided, leave the space blank. SIC code numbers may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget. This text may be found in a public library or may be ordered from the US Government Printing Office, 200 North High Street, Columbus, Ohio 43215, (614) 469-6955. Another source is the following website provided by the Occupational Health and Safety Administration: http://www.osha.gov/oshstats/sicser.html

Existing NPDES Permit Number(s): If the facility identified in Section II of this application has ever been issued an individual NPDES permit and/or general permit coverage(s), enter the (facility specific) permit number(s) here. In the case of an individual NPDES permit, give the permit number (e.g. 3IA00555*AD). In the case where general permit coverage is being renewed, it is *extremely important* to give the individual Ohio EPA general permit identification number assigned in the previous approval for coverage letter received from Ohio EPA. Examples of such numbers are: 0GR009876 (industrial storm

water) and 0GN009876 (non-contact cooling water).

ODNR Coal Surface Mining Application Number: For coal surface mining activity general permit applicants only. Enter the **O**hio **D**epartment of **N**atural **R**esources coal mining permit application number here. You must obtain this number from ODNR before submitting this application.

Outfall: This item does not apply to storm water or coal surface mining applicants. List the numbers of the outfalls for which you desire permit coverage. Please enter the outfall numbers as three digits (e.g. 001, 002, etc.). If you have five or more outfalls, please list the additional outfalls on an additional sheet. An outfall is the point source discharge of wastewater leaving your site that will be entering a surface water body and does not enter a sewer system tributary to a publicly-owned sewage treatment plant. An outfall could be a pipe, ditch, channel, or other conveyance leaving your site.

Design Flow: This item does not apply to storm water or coal surface mining applicants. For the corresponding outfall, please indicate in **m**illion **g**allons per **d**ay (MGD) the average design flow of each outfall or each outfall's treatment system (e.g. 100,000 gallons per day (gpd) = 0.1 million gallons per day (MGD); in this case, enter 0.1 in the space provided). Facilities applying for coverage under the small sanitary general permit shall submit their design flow and an estimated sewage flow rate in gallons per day. The sewage flow rate should be estimated, using Attachment B., and entered on the NOI form on the line directly underneath the design flow.

Latitude/Longitude: This item does not apply to storm water or coal surface mining applicants. Please indicate the latitude and longitude of the point of discharge (outfall) to the nearest 15 seconds (provide coordinates as: degrees minutes seconds using 2 digits in each space; e.g. latitude 40 15 35, longitude 80 41 22; do not use symbols). Latitude/longitude is available from USGS topographical maps (see "Facility Address/Location: IN CASE OF COAL SURFACE MINING OPERATIONS," above, for information on obtaining USGS maps).

Other DSW Permits Required: Identify other Division of Surface Water (DSW) permits that are either pending with DSW or for which you are aware that you need to apply for the facility/site identified on the NOI. This is of particular importance for construction storm water sites. Indicate the type of permit (NPDES, PTI, or 401) and whether it's "pending" with DSW or "yet to apply."

Project Start/Completion Dates: For construction activity and coal surface mining applicants, enter the project approximate start date and estimated completion date for the entire development plan or for final bond release. Provide dates as: month day year using two digits in each space (e.g. September 28, 1994 = 09 28 94); do not use symbols or letters. Applicants for coverage under the small sanitary discharger general permit should include the date that the facility commenced discharging in the space entitled "Project Start Date."

Total Land Disturbance (Acres): For construction activity and coal surface mining applicants only, provide an estimate of the total number of acres of land that will be disturbed during the life of the project. In the case of construction activity, the total area disturbed is to be addressed by the storm water pollution prevention plan which is to have been developed by the time the NOI is submitted to Ohio EPA. Disturbed land is land in which vegetation has been cleared and soils are exposed to storm water.

MS4 Drainage Area (square miles): For MS4 general permit applicants only, provide, in square miles, the area served by the MS4. This information will be used to determine an MS4 operator's annual discharge fee (which will be due annually starting January 30, 2004). The fee is $100 per square mile of MS4 permitted with a maximum fee of $10,000 [per Ohio Revised Code 3745.11(L)(6)]. Ohio will send an annual notification regarding an MS4's specific fee prior to it being due.

Payment Information

A check made payable to "Treasurer, State of Ohio" must accompany all NOI applications. The check number, check amount, and check date must be on the NOI to ensure complete processing. Provide dates as: month day year using two digits in each space (e.g. September 28, 1994 = 09 28 94); do not use symbols. For the appropriate NOI application fee, see Attachment D below.

Certification

Type or print the name and title of the person who will sign the form. Next, sign and date the form. Federal and State statutes provide for severe penalties for submitting false information on this application form. In the case of co-permittees, attach a separate sheet of paper re-stating the NOI certification statement and each co-permittee is to provide the individual's name, title, name of the entity represented, signature, and date. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or (2) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: by a general partner or the proprietor; respectively, or

For a municipality, state, or other public facility; by either a principal executive officer, the ranking elected official, or other duly authorized employee.

For facilities applying for coverage under the Small Sanitary General permit attach, on a separate sheet of paper, a list of the parameters and limits included in the existing individual NPDES permit. Also, indicate the type of treatment used at the facility (extended aeration, lagoon (controlled or continuous discharge) etc.) and whether or not the facility has a requirement to be under the supervision of a certified operator. Also include the results of at least one effluent sample for the parameters in the general permit.

Facilities applying for coverage under either small MS4 general permit are required to submit the original NOI and a copy of their storm water management program (SWMP) to Ohio EPA's Central Office, Office of Fiscal Administration, P.O. Box 1049, Columbus, Ohio 43216-1049 and a copy of the NOI and SWMP to the Ohio EPA at the appropriate district office, DSW - Storm Water (see page 10 for the appropriate district office and mailing address).

Attachment A

If the discharge is to one of the following named river segments or to a tributary within 1,000 feet of one of the segments, enter the river code in the space provided on the form.

River/Stream Segment Code	River/Stream Segment
	Little Miami River
S01	- Clermont County line at Loveland to headwaters, including North Fork
S02	- Clermont County line at Loveland to confluence with East Fork
S03	- From confluence with East Fork to Ohio River
	Sandusky River
S11	- U.S. Route 30 in Upper Sandusky to Roger Young Memorial Park in Fremont
	Olentangy River
S21	- Delaware Dam to Wilson Bridge Road in Worthington
	Little Beaver Creek
W31	- West Fork from 1/4 mile downstream from Township Road 914 to confluence with Middle Fork
W32	- North Fork from Township Road 952 to confluence with Little Beaver Creek
W33	- Little Beaver Creek from confluence of West and Middle Forks downstream to 3/4 mile north of Grimm's Bridge
S31	- North Fork from Ohio-Pennsylvania line downstream to Jackman Road
S32	- Middle Fork from Elkton road (Township Road 901) downstream to confluence with West Fork
S33	- Little Beaver Creek from 3/4 mile north of Grimm's Bridge downstream to Harpersfield covered bridge
	Grand River
W41	- From Harpersfield covered bridge downstream to Norfolk and Western Railroad trestle south of Painesville
S41	- From State Route 322 bridge in Astabula County downstream to Harpersfield covered bridge
	Upper Cuyahoga River
S51	- Troy-Burton Township line in Geauga County to US Route 14
	Maumee River
S61	- Ohio-Indiana line to State Route 24 bridge west of Defiance
R61	- State Route 24 bridge west of Defiance to US Route 25 bridge near Perrysburg
	Stillwater River System
R71	- Englewood Dam to confluence with Great Miami River
S71	- Stillwater River from Riffle Road bridge in Darke County to Englewood Dam
S72	- Greenville Creek from the Ohio-Indiana line to the confluence with the Stillwater
	Chagrin River
S81	- Aurora Branch from State Route 82 bridge downstream to confluence with Chagrin
S82	- Chagrin River from confluence with Aurora Branch downstream to State Route 6 bridge
S83	- East Branch from Heath Road bridge downstream to confluence with Chagrin
	Big and Little Darby Creeks
S91	- Big Darby Creek from the Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River
S92	- Little Darby Creek from the Lafayette-Plain City Road bridge downstream to within 0.8 mile from the confluence with Big Darby Creek

Attachment B

ESTIMATING SEWAGE FLOW RATE

These estimated flows are empirical and are intended for estimating average flow rates

PLACE	ESTIMATED SEWAGE FLOW (Gallons Per Day)
Apartments	250 one-bedroom 300 two- bedroom 350 three-bedroom
Assembly Halls[a]	2 per seat
Beauty Shop, Styling Salon	200 per basin
Bowling Alleys (no food service)[a]	75 per lane
Churches (small)[a]	3-5 per sanctuary seat
Churches (large with kitchen)[b]	5-7 per sanctuary seat
Country Clubs	50 per member
Dance Halls[a]	2 per person
Doctors/Dentists	75 per doctor 20 per employee 10 per patient
Drive-Inn Theaters	5 per car space
Factories (no showers)	25 per employee
Factories (with showers)	35 per employee
Food Service Operations Ordinary Restaurant (not 24-hour) 24-Hour Restaurant Banquet Rooms Restaurant Along Freeway Tavern (very little food service) Curb Service (drive-in) Vending Machine Restaurants	 35 per seat at 400 ppm BOD_5 50 per seat at 400 ppm BOD_5 5 per seat at 400 ppm BOD_5 100 per seat at 400 ppm BOD_5 35 per seat at 400 ppm BOD_5 50 per car space at 400 ppm BOD_5 100 per seat at 200 ppm BOD_5
Homes in Subdivision	400 per dwelling
Hospitals (no resident personnel)[b]	300 per bed
Institutions (residents)[b]	100 per person
Non-Industrial Laundries (coin-operated)	400 per standard size machine

PLACE	ESTIMATED SEWAGE FLOW (Gallons Per Day)
Marinas (restrooms and showers only)	15 per boat mooring/slip/dock
Migrant Labor Camps[c]	50 per person
Mobile Home Parks	300 per mobile home space
Motels	100 per unit
Nursing and Rest Homes[b]	200 per patient at 300 ppm BOD_5 100 per resident employee 50 per non-resident employee
Office Buildings	20 per employee
Recreational Vehicle Dumping Stations	Consult District Office
Recreational Vehicle Parks and Camps	Consult District Office
Retail Stores	20 per employee
Schools - Elementary[b] – High and Junior High[b]	15 per pupil 20 per pupil
Service Stations	1000 first bay or pump island 500 additional bay or pump island
Shopping Centers (no food service/laundries)[d]	0.2 per sq.ft. of floor space
Swimming Pools (average) (with hot water showers)	3-5 per swimmer (design load) 5-7 per swimmer (design load)
Vacation Cottages	50 per person
Veterinarians and Animal Hospitals[e]	10 per run 10 per cage 20 per employee
Youth and Recreation Camps[b]	50 per person

[a] Food service waste not included.
[b] Food service waste included, but without garbage grinders.
[c] 20 gallons per day if vault latrine is used for toilet wastes.
[d] All laundries or other high flow or high strength uses.
[e] Assumes manual hosing and solids (food droppings, etc.) removal prior to hosing.

OhioEPA

DISTRICT OFFICES

CDO **Central District Office**
3232 Alum Creek Drive
Columbus, Ohio 43207-3417
(614) 728-3778

NEDO **Northeast District Office**
2110 E. Aurora Road
Twinsburg, Ohio 44087
(330) 963--1200

NWDO **Northwest District Office**
347 North Dunbridge Road
P.O. Box 466
Bowling Green, Ohio 43402
(419) 352-8461

SEDO **Southeast District Office**
2195 Front Street
Logan, Ohio 43138
(740) 385-8501

SWDO **Southwest District Office**
401 East Fifth Street
Dayton, Ohio 45402-2911
(937) 285-6357

As of July 1, 2001, the industrial storm water NOI fee is $350. The construction NOI fee is $200 plus $20 per whole disturbed acre (do not round-up) above 5 acres, with a maximum disturbed acreage fee of $300. Under this fee schedule, a site with twenty or more disturbed acres would pay the maximum fee of $500. These fee increases can be found in Ohio Revised Code (ORC) Section 3745.11(S)(1).

STORM WATER GENERAL PERMIT FEE INCREASE SCHEDULE - JULY, 2001

INDUSTRIAL STORMWATER NOI = TOTAL FEE $350.00

CONSTRUCTION STORMWATER NOI

DISTURBED ACREAGE	BASE FEE	ADDITIONAL ACREAGE FEE	TOTAL FEE DUE	
1 - 5.99 ACRES	200	0	200	
6 - 6.99 ACRES	200	20	220	
7 - 7.99 ACRES	200	40	240	
8 - 8.99 ACRES	200	60	260	
9 - 9.99 ACRES	200	80	280	
10 - 10.99 ACRES	200	100	300	
11 - 11.99 ACRES	200	120	320	
12 - 12.99 ACRES	200	140	340	
13 - 13.99 ACRES	200	160	360	
14 - 14.99 ACRES	200	180	380	
15 - 15.99 ACRES	200	200	400	
16 - 16.99 ACRES	200	220	420	
17 - 17.99 ACRES	200	240	440	
18 - 18.99 ACRES	200	260	460	
19 - 19.99 ACRES	200	280	480	
20 ACRES AND UP	200	300	500	MAXIMUM FEE

NOI fee = $200 for coverage under all other general permits (e.g., Small MS4, Coal Surface Mining, Small Sanitary Discharge, etc.)

APPENDIX B

Construction Sequence Examples

NARRATIVE EXAMPLE OF SEQUENCE

CONSTRUCTION SEQUENCE

SITE PREPARATION

NOTE: PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL AS SPECIFIED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. CONTRACTOR MUST REVIEW THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. CONTRACTOR MUST REVIEW THE APPROVED NPDES PERMIT AND SIGN THE PERMIT TO ACCEPT RESPOSIBILITIES AS THE CO-PERMITEE.

1. INSTALL RCE NO. 1 AND NO. 2 FOR ACCESS TO CONSTRUCTION AREAS OF SITE.

2. DELIVER CONSTRUCTION TRAILER TO SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE.

3. ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4. STAKEOUT LIMIT OF DISTURBANCE.

5. INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS (REFER TO PLAN LEGEND FOR DESIGNATIONS). REMOVE SILT PROTECTION FROM DESIGNATED INLETS ONLY WHEN INLET STRUCTURE IS TO BE REMOVED AS REQUIRED BY PROGRESSION OF CONSTRUCTION. REFER TO PLANS FOR IDENTIFICATION OF INLET STRUCTURES TO BE REMOVED.

6. INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS. FILTER FABRIC FENCE SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

   A. SOUTH PROPERTY BOUNDARY ALONG EXISTING RESIDENCES
   B. DOWNSLOPE OF PARKING AREA ALONG EASTERN DISTURBANCE LIMIT BOUNDARY
   C. NORTH OF PROPOSED BUILDING CONSTRUCTION ADJACENT TO EXISITNG ATHLETIC FIELD
   D. AT TOE OF ALL TOPSOIL STOCKPILE AREAS.
   E. DOWNSLOPE OF BUILDING DEMOLITIONS-TEMPORARY INSTALLATION.
   F. DOWNSLOPE OF STORM WATER POND AREA EAST PARKING AREA

SEDIMENT BASIN CONSTRUCTION

7. BEGIN CLEARING IN AREA OF PROPOSED SEDIMENT BASIN.

8. REMOVE TOPSOIL FROM AREAS OF SEDIMENT BASINS. REMOVE MATERIAL FROM SITE PER OHIO ENVIRONMENAL PROTECTION AGENCY (OHIO EPA) STANDARDS. TEMPORARILY STOCKPILE MATERIAL IN DESIGNATED AREAS.

9. BEGIN EARTHWORK OPERATIONS WITHIN THE IMMEDIATE AREA OF THE BASIN. EXCAVATE THE MATERIAL NECESSARY TO BRING THE INVERT OF THE BASIN TO THE PROPOSED BASIN INVERT ELEVATION (REFER TO SEDIMENT BASIN TYPICAL EMBANKMENT DETAILS #1).

10. TEMPORARILY STORE MATERIAL EXCAVATED FOR BASIN CONSTRUCTION AT DESIGNATED AREAS.

11. MATERIAL TO BE MAINTAINED FOR DUST CONTROL BY USE OF A COVER OR OTHER METHODS APPROVED BY OHIO EPA.

12. IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SWALE. REMOVE SILT FROM BASIN AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL WHEREVER POSSIBLE. RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL. IF WASTE MATERIAL IS REMOVED FROM THE PROJECT SITE, THE CONTRACTOR MUST PROVIDE AN EROSION AND SEDIMENTATION CONTROL PLAN TO THE REGULATORY COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE PROJECT SITE AS WELL AS THE COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE DISPOSAL AREA.

13. INSTALL OUTLET STRUCTURE, RELATED PIPING, AND EMERGENCY SPILLWAY AS GRADES PERMIT.

14. INSTALL TEMPORARY DIVERSION SWALE ALONG SOUTHEAST PORTION OF DISTURBED LIMITS.

15. UPON COMPLETION OF OUTLET STRUCTURES, INSTALL ROCK APRONS. THIS COMPLETES THE INSTALLATION OF THE SEDIMENT BASIN.

GENERAL CONSTRUCTION

16. BEGIN SITE DEMOLITION IN ACCORDANCE WITH PHASING SEQUENCE AS PER CONSTRUCTION PLANS.

17. MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK.

18. BEGIN EARTHMOVING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF LOCATION AND EROSION AND SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL. NOTE THAT THE ON-SITE GEOTECHNICAL ENGINEER WILL CLOSELY MONITOR ALL EARTHMOVING OPERATIONS. CONTRACTOR TO COORDINATE WITH OWNER THE PLACEMENT OF SUCH MEASURES.

19. UPON ESTABLISHMENT OF PARKING AREA GRADES, AS DESIGNATED ON PLANS, CONSTRUCT TEMPORARY ACCESS DRIVE. DRIVEWAY IS TO BE UTILIZED BY STUDENTS, FACULTY, AND STAFF ONLY.

20. ABANDON OR REMOVE EXISTING STORM CONVEYANCE SYSTEMS AS DESIGNATED IN CONSTRUCTION DOCUMENTS. PROVIDE WATERTIGHT SEAL AND PLUG WITHIN ABANDONED OUTFALL PIPES VIA THREADED METAL CAPS, PLASTIC PLUGS, CONCRETE GROUT, OR OTHER ACCEPTABLE METHODS SUITABLE FOR SIZE AND TYPE OF PIPE MATERIAL BEING CLOSED. DO NOT USE WOOD PLUGS.

21. BEGIN BUILDING CONSTRUCTION UPON ESTABLISHMENT OF GRADE AT BUILDING FOOTPRINT.

22. STORM SEWER AND UTILITY LINE CONSTRUCTION MAY BEGIN IMMEDIATELY FOLLOWING ESTABLISHMENT OF GRADE AND WITH THE PERMISSION OF THE OWNER.

23. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY BY MEANS OF GRAVEL BACKFILL TO SURFACE, REPAVING OR MULCHING.

24. CONTINUE UTILITY INSTALLATION TO WITHIN 5 FEET OF BUILDING.

25. REPLACE TOPSOIL, FINE GRADE AND SEED AS REQUIRED.

26. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING OR CROWNVETCH SEEDING IMMEDIATELY UPON REACHING FINAL GRADE.

27. INSTALL CONCRETE CURBS AND PAVEMENT SUBBASE.

28. REMOVE TEMPORARY DIVERSION SWALE. GRADE TO PROPOSED ELEVATION PER SITE PLAN.

29. BEGIN BITUMINOUS PAVING, REMOVING RCE NO. 1 ONLY WHEN NECESSARY.

30. DO NOT REPLACE TOPSOIL, SEED, OR PAVE PRIOR TO COMPLETION OF BUILDING SHELL. SHOULD SITE WORK BE COMPLETED PRIOR TO THIS DATE, MULCH DISTURBED AREAS TO BE PLANTED AND INSTALL STONE SUBBASE IN DISTURBED AREAS TO BE PAVED WITHIN TWENTY DAYS.

31. FOLLOWING COMPLETION OF BUILDING SHELL, BEGIN LANDSCAPE INSTALLATION.

32. COMPLETE SITEWORK, PAVEMENT MARKINGS, FINAL LANDSCAPING AND CLEAN-UP.

33. RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 70% COVERAGE IS ACHIEVED.

34. ALL EROSION MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED. ALL AREAS OF VEGETATIVE SURFACE STABILIZATION, WHETHER TEMPORARY OR PERMANENT, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (70%) IS OBTAINED.

<u>BASIN CONVERSION</u>

35. NOTE THAT SEDIMENT BASIN WILL BE CONVERTED TO A STORMWATER DETENTION FACILITY FOLLOWING THE STABILIZATION OF THE SITE.

36. PRIOR TO SEDIMENT BASIN CONVERSION, PUMP ALL STANDING WATER FROM WITHIN THE BASIN TO A FILTERING SYSTEM IN A WELL-VEGETATED AREA OR WITHIN THE CHANNEL OF THE EMERGENCY SPILLWAY. REMOVE AND DISPOSE OF ALL UNSUITABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE BASIN PRIOR TO PLACEMENT OF COMPACTED SOIL.

37. COMPLETE EARTHWORK WITHIN BASIN TO BRING INVERT TO FINAL GRADE AS SHOWN ON SITE PLANS.

38. FINE GRADE AND SEED THE AREA OF NEWLY PLACED COMPACTED FILL AND AREA OF TEMPORARY EARTH MATERIAL STORAGE.

39. REMOVE TEMPORARY RISER AND RELATED INFLOW PIPE FROM SEDIMENT BASIN.

40. INSTALL PERMANENT AMENITIES OF OUTLET STRUCTURE. PATCH AND REPAIR STRUCTURE A NEEDED.

41. REMOVE PLATES FROM OUTLET STRUCTURE. PATCH AND REPAIR STRUCTURE AS NEEDED.

42. BACKFILL, FINE GRADE AND SEED THE AREA IMMEDIATELY AROUND THE STRUCTURE.

43. INSTALL LOW FLOW CHANNELS FROM ROCK APRONS TO OUTLET STRUCTURE.

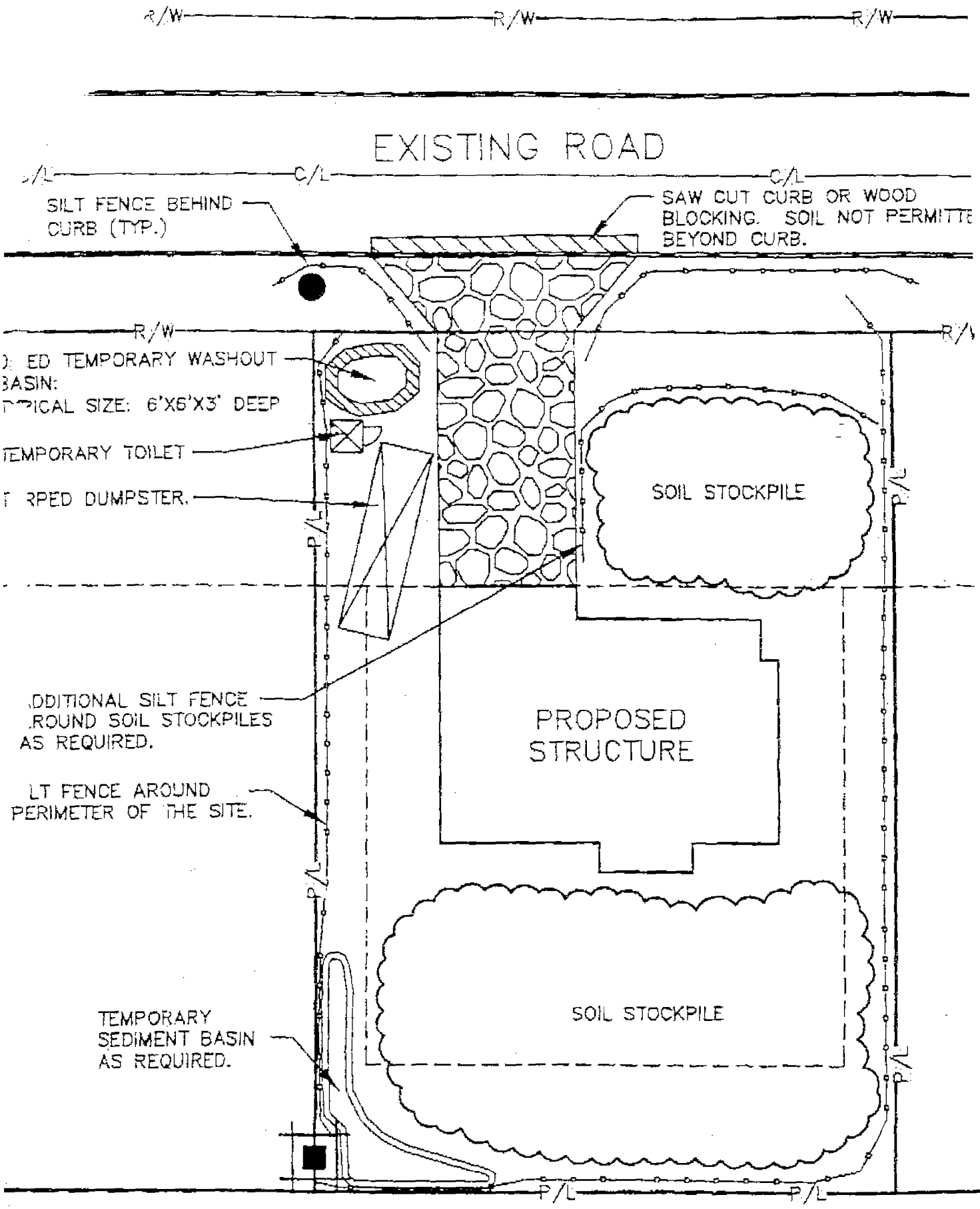
44. IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT AL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING TH PERIOD, AND THAT ALL BARED SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEE MIXTURE.

45. IT IS ANTICIPATED THAT GRADING FOR THIS PROJECT WILL BE COMPLETED IN DECEMBER C 2003.

46. THE FOLLOWING ITEMS MUST BE COMPLETED BY THE CONTRACTOR, IN ORDER, ONCE THE SI HAS BEEN DEEMED STABLE:

    A. REMOVE RCE NO. 1 PRIOR TO COMPLETION OF PAVING.
    B. SITE CLEAN UP.
    C. RESEED ANY AREAS THAT REQUIRE ADDITIONAL SEED .
    D. FILTER FENCES ARE TO BE CLEANED, REMOVED, BACKFILLED AND SEEDED WITH PERMANEN SEEDING.
    E. VERIFY POSITIVE CONVEYANCE FLOW IN ALL DRAINAGE STRUCTURES.

47. ALL QUESTIONS REGARDING EROSION CONTROL ARE TO BE DIRECTED TO BURT HILL KOSA RITTELMANN AT (412) 394-7000. ALTERATIONS TO THE APPROVED PLAN SHALL BE SUBMITTE BY BURT HILL KOSAR RITTELMANN TO THE APPROPRIATE COUNTY CONSERVATION DISTRIC FOR REVIEW PRIOR TO THE COMMENCEMENT OF SUCH CHANGES AT THE CONSTRUCTION SITE.



TYPICAL RESIDENTIAL LOT

CONSTRUCTION SEQUENCE

1. CONSTRUCTION ENTRANCE DRIVE PER ATTACHED DETAIL. IT IS RECOMMENDED THE CURBS BE CUT IN THE DRIVE AREA PRIOR TO EXCAVATION. WOOD BLOCKING BE USED UNTIL THE CUB IS CUT. SOIL WILL NOT BE PERMITTED BEYOND THE CURB NE.

2. INSTALL SILT FENCE AROUND PERIMETER OF SITE AS REQUIRED. THE FENCE SHALL BE TRENCHED IN AND BACKFILLED PRIOR TO DISTURBING THE SITE.

3. EXCAVATE WASHOUT PIT FOR CONCRETE TRUCKS. THE PIT SHALL BE OF ADEQUATE SIZE AND SHALL BE PROTECTED AS REQUIRED. IN NO CASE WILL CONTRACTORS BE PERMITTED TO WASH TOOLS OR DUMP WASTE OF ANY KIND INTO THE STORM SEWERS.

4. EXCAVATE FOR FOUNDATIONS.

5. INSTALL ADDITIONAL SILT FENCE AROUND SOIL STOCKPILES AS REQUIRED.

6. BACKFILL FOUNDATIONS AND SPREAD TOPSOIL AS SOON AS STRUCTURE IS ABOVE FINAL GRADE.

7. SEED SITE WITH TEMPORARY SEED MIX. TYPICALLY A SITE WILL BE SEEDED AT LEAST 3 TIMES. ONCE UPON COMPLETION OF THE ROADWAY AND UNDERGROUND UTILITIES. AGAIN AFTER THE FOUNDATIONS HAVE BEEN BACKFILLED, AND A FINAL SEEDING AFTER EXTERIOR CONSTRUCTION HAS BEEN COMPLETED. STOCKPILES INACTIVE FOR MORE THEN 15 DAYS MUST BE SEEDED. ADDITIONAL GRADING AND FINAL SEEDING MAY BE REQUIRED.

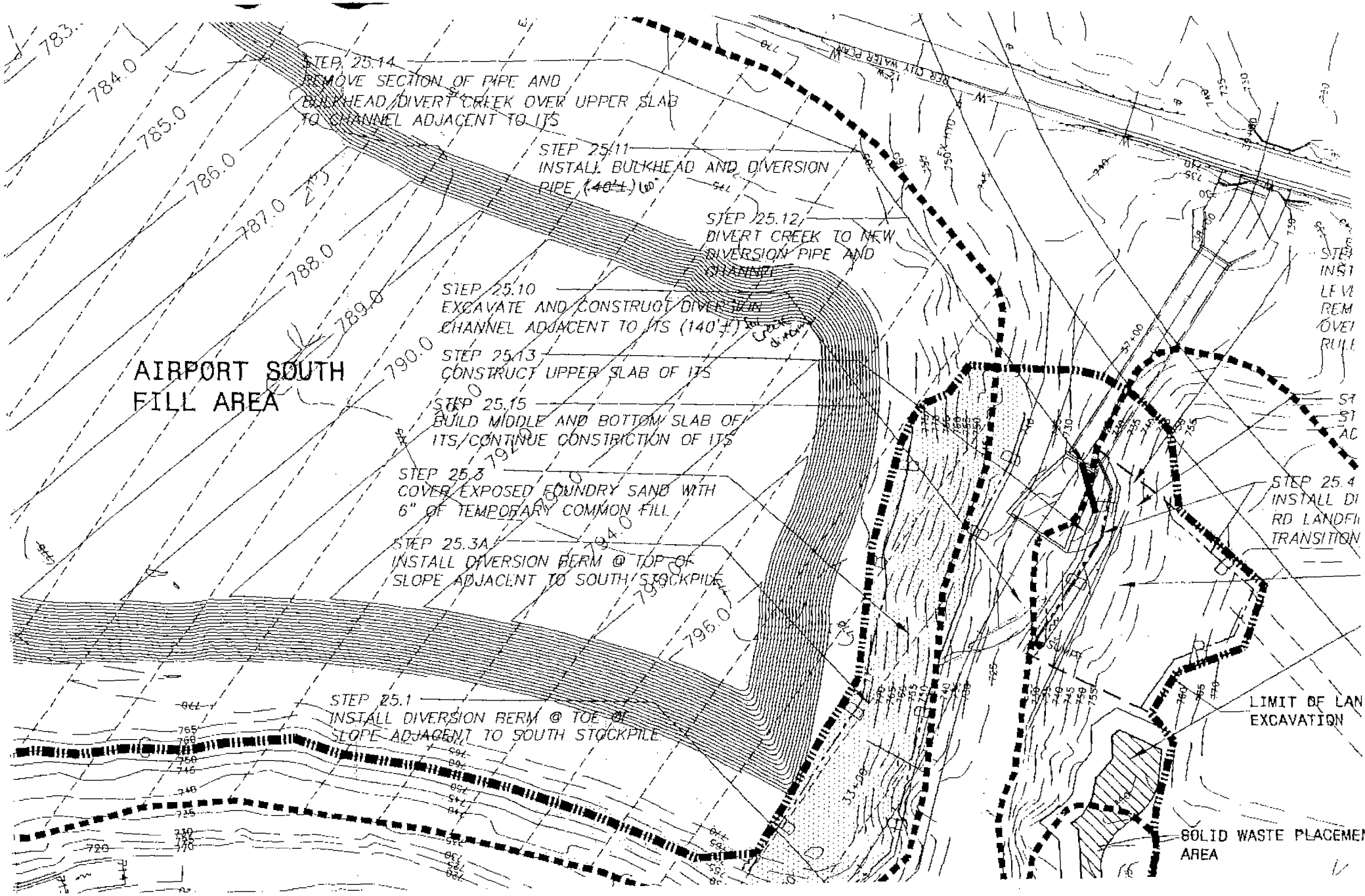
8. TEMPORARY SEDIMENT BASINS SHALL BE INSTALED AROUND YARD INLETS AND SHALL REMAIN UNTILL THE SITE HAS BEEN STABILIZED. TEMPORARY BASINS MAY ALSO BE REQUIRED ON SITES WITH EXTREME GRADE DIFFERENTIALS OR EXCESSIVE SITE RUNOFF.

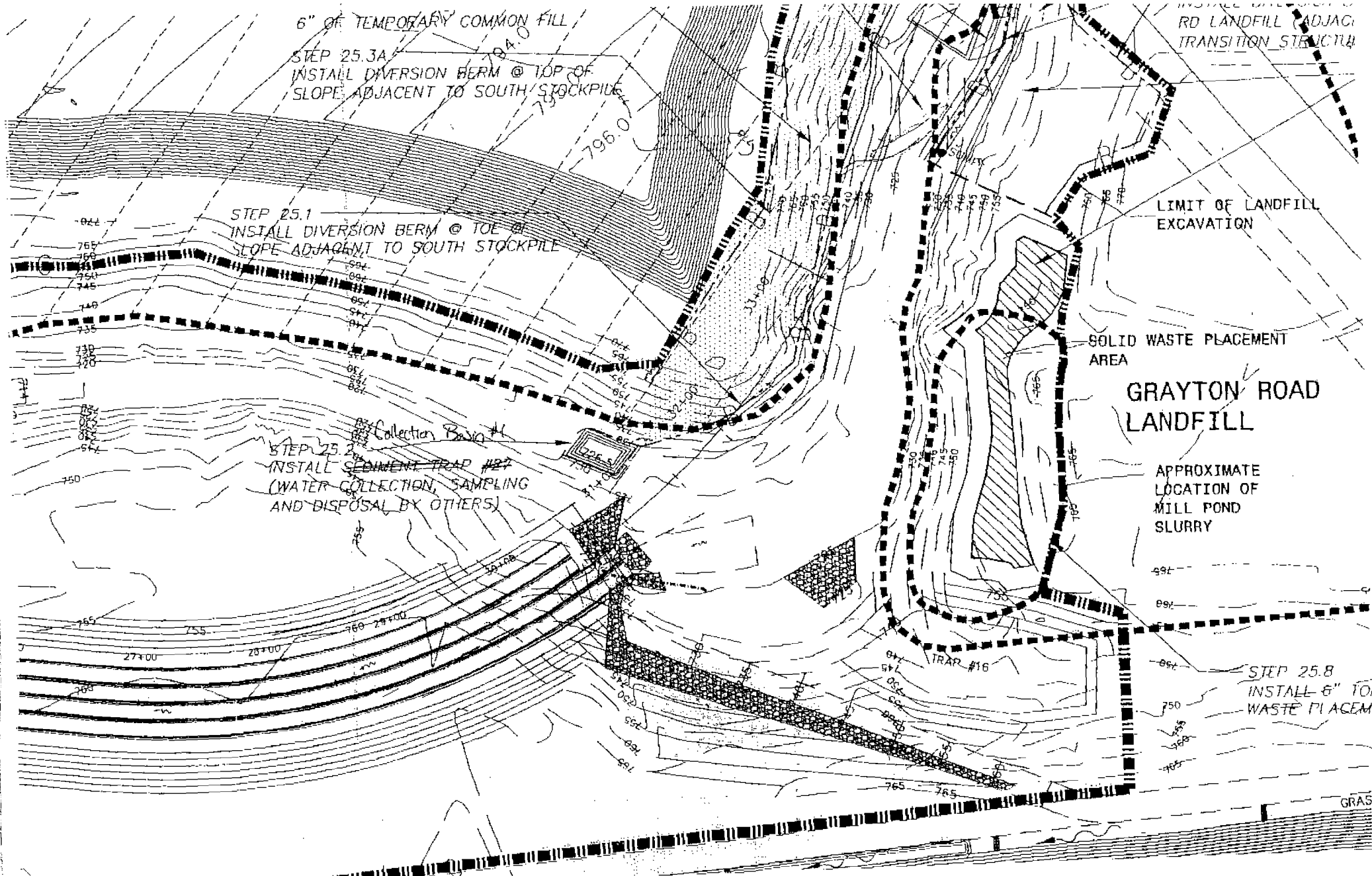
9. SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. IT IS PROHIBITED TO BURN, BURY, OR POUR ONTO THE GROUND OR INTO STORM SEWERS ANY SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREZE, CEMENT CURING COMPOUNDS AND OTHER SUCH TOXIC OR HAZARDOUS WASTES. WASH OUT OF CEMENT TRUCKS SHALL OCCUR IN DIKED AREAS AWAY FROM ANY DRAINAGE CHANNELS. THE DIKED AREA SHOULD HOLD A VOLUME 110% OF THE LARGEST TANK. A COVERED CONTAINER OR DUMPSTER WITH A TARP SHALL BE PROVIDED FOR DISPOSAL OF SOLID WASTE.

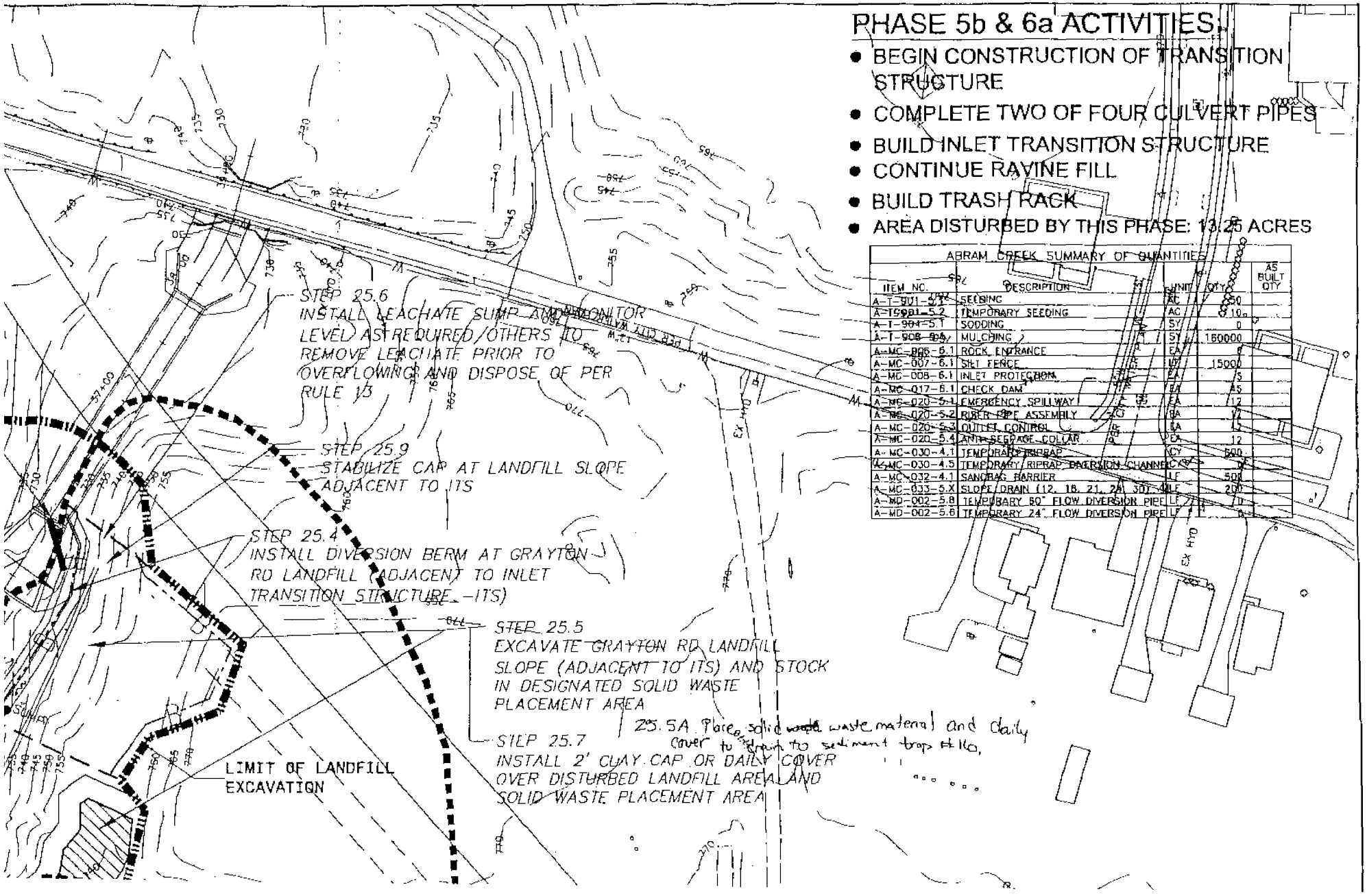
TEMPORARY SEEDING SPECIFICATIONS: PER 1,000 S.F.

SEEDING DATES	SEED TYPE	APPLICATION RATE
MARCH 1 – AUGUST 15	OATS	3#
	PERENNIAL RYE GRASS OR TALL FESCUE	1#
AUGUST 16 – NOVEMBER 1	RYE, WHEAT OR PERENNIAL RYE GRASS	3#
	TALL FESCUE	1#
AFTER NOVEMBER 1	STRAW OR HAY MULCH	2–3 BALES
SEED BED PREPARATION	LIME	100#
	10–10–10 OR 12–12–12 FERTILIZER	12–15#

NOTES:
PLANT ODOT ITEM 207 TEMPORARY SEEDING AND MULCHING IN ALL AREAS THAT SHALL BE INACTIVE FOR 15 DAYS OR MORE. ALL DISTURBED AND ERODED EARTH SHALL BE REGRADED AND SEEDED WITHIN 14 DAYS WITH SEEDING, AS SPECIFIED ABOVE. WHERE POSSIBLE, TEMPORARY SEEDING GROWTH SHALL NOT BE MOWED UNTIL IT HAS GONE TO SEED FOR 1 YEAR.


STEP 25.14
REMOVE SECTION OF PIPE AND BULKHEAD/DIVERT CREEK OVER UPPER SLAB TO CHANNEL ADJACENT TO ITS
STEP 25.11
INSTALL BULKHEAD AND DIVERSION PIPE (~~40'±~~) 60'
STEP 25.12
DIVERT CREEK TO NEW DIVERSION PIPE AND CHANNEL
STEP 25.10
EXCAVATE AND CONSTRUCT DIVERSION CHANNEL ADJACENT TO ITS (140'±)
STEP 25.13
CONSTRUCT UPPER SLAB OF ITS
AIRPORT SOUTH FILL AREA
STEP 25.15
BUILD MIDDLE AND BOTTOM SLAB OF ITS/CONTINUE CONSTRICTION OF ITS
STEP 25.3
COVER EXPOSED FOUNDRY SAND WITH 6" OF TEMPORARY COMMON FILL
STEP 25.3A
INSTALL DIVERSION BERM @ TOP OF SLOPE ADJACENT TO SOUTH STOCKPILE
STEP 25.1
INSTALL DIVERSION BERM @ TOE OF SLOPE ADJACENT TO SOUTH STOCKPILE
STEP 25.4
INSTALL DI
RD LANDFI
TRANSITION
LIMIT OF LAN
EXCAVATION
SOLID WASTE PLACEMEN
AREA
783
784.0
785.0
786.0
787.0
788.0
789.0
790.0
792.0
794.0
796.0


6" OF TEMPORARY COMMON FILL
STEP 25.3A
INSTALL DIVERSION BERM @ TOP OF SLOPE ADJACENT TO SOUTH STOCKPILE
STEP 25.1
INSTALL DIVERSION BERM @ TOE OF SLOPE ADJACENT TO SOUTH STOCKPILE
Collection Basin #1
STEP 25.2
INSTALL ~~SEDIMENT TRAP #27~~
(WATER COLLECTION, SAMPLING AND DISPOSAL BY OTHERS)
LIMIT OF LANDFILL EXCAVATION
SOLID WASTE PLACEMENT AREA
GRAYTON ROAD LANDFILL
APPROXIMATE LOCATION OF MILL POND SLURRY
TRAP #16
STEP 25.8
INSTALL 6" TO
WASTE PLACEM
796.0
GRAS



ABRAM CREEK SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY.	AS BUILT QTY
A-T-801-5.1	SEEDING	AC	250	
A-T-801-5.2	TEMPORARY SEEDING	AC	5.10	
A-T-804-5.1	SODDING	SY	0	
A-T-808-5.1	MULCHING	SY	160000	
A-MC-005-6.1	ROCK ENTRANCE	EA	1	
A-MC-007-6.1	SILT FENCE	LF	15000	
A-MC-008-6.1	INLET PROTECTION	EA	5	
A-MC-017-6.1	CHECK DAM	EA	45	
A-MC-020-5.1	EMERGENCY SPILLWAY	EA	12	
A-MC-020-5.2	RISER PIPE ASSEMBLY	EA	12	
A-MC-020-5.3	OUTLET CONTROL	EA	12	
A-MC-020-5.4	ANTI-SEEPAGE COLLAR	EA	12	
A-MC-030-4.1	TEMPORARY RIPRAP	CY	500	
A-MC-030-4.5	TEMPORARY RIPRAP DIVERSION CHANNEL	CY	0	
A-MC-032-4.1	SANDBAG BARRIER	LF	500	
A-MC-033-5.X	SLOPE DRAIN (12, 18, 21, 24, 30)	LF	200	
A-MD-002-5.8	TEMPORARY 60" FLOW DIVERSION PIPE	LF	0	
A-MD-002-5.6	TEMPORARY 24" FLOW DIVERSION PIPE	LF	0	

APPENDIX C

Site Description Form

APPENDIX C

Nature and Type of Construction Activity

- ☐ Low Density Residential (< 4 dwellings/acre)
- ☐ Medium Density Residential (4 to 8 dwellings/acre)
- ☐ High Density Residential (>8 dwellings/acre)
- ☐ Commercial
- ☐ Industrial
- ☐ Roadway
- ☐ Utility
- ☐ Other

_____

Disturbed Area:

Total area to be disturbed (ex. Grubbing, clearing, excavating, fill, etc. including off-site borrow and fill areas) _____ acres.

Runoff Coefficient:

Land Use	Runoff Coefficient	Total Area on Project Site	Percentage	Weighted Coefficient
Industrial & Commercial	0.8			
High Density Residential (>8 dwellings/acre)	0.5			
Medium Density Residential (4 to 8 dwellings/acre)	0.4			
Low Industry Residential (<4 dwellings/acre)	0.3			
Open Space and Recreational Areas	0.2			
Total	**–**		**100**	

Drainage Area: _____

Impervious Area:

Site Condition	Percentage	Area (acres)
Pre-Construction		
Post-Construction		

Site Soil Type: _____

Description of any historical stormwater quality monitoring activity at site (attach results):

_____
_____
_____

Prior Land Use: _____

Construction Implementation Schedule:

a. Clearing

b. Grubbing

c. Install Erosion and Sediment Control Devices

    Location: _____

d. Temporary Seeding

    a. Location: _____

e. _____

f. _____

g. _____

h. _____

Note: attach more detail if necessary.

Receiving Waters:

List the receiving waters for stormwater drainage, include distances to these waters.

_____
_____
_____

Pre-construction stormwater flows to _____ waterbody.
Post-construction stormwater flows to _____ waterbody.

Wetlands and other Aquatic Resources:

Describe any wetlands or special aquatic resources located on or adjacent to the proposed site.

_____
_____
_____

Batch Plants

Is there dedicated asphalt or concrete batch plants associated with this project?

☐ Yes ☐ No

If so, please describe the stormwater discharges associated with the plant and the stormwater BMPs associated with that.

_____
_____
_____

Remember: Attach a copy of the NPDES Construction Stormwater General Permit to the SWP^3 (Appendix F).

APPENDIX D

Single Lot Site Plan Example

Example

Erosion and Sediment Control Site Plan

S/L #41 of the Conservation Hills Subdivision

Concord Township, Ohio *April 29, 2002*

Erosion and Sediment Control Schedule

Ingress-Egress
A stone access drive complete with under lying geo-textile fabric (20 feet wide and 50 feet long) for ingress and egress at the site shall be installed. This drive shall be the only entrance and exit to the site.

Silt Fence
All silt fence shall be installed prior to any earthwork activities at the site in the locations shown on the site plan as well as along the front of any lot that slopes towards the street.

Temporary Seeding
Disturbed areas of the site that are to remain idle for more than thirty (30) days shall be properly seeded and straw mulched within seven (7) days of completion of initial grading. Temporary seeding and mulching of a thirty (30) foot strip of the entire front of the lot shall be maintained on the site once initial grading is complete.

Stabilization of critical areas within fifty (50) feet of any stream or wetland shall be complete within two (2) days of the disturbance if the site is to remain inactive for longer than fourteen (14) days.

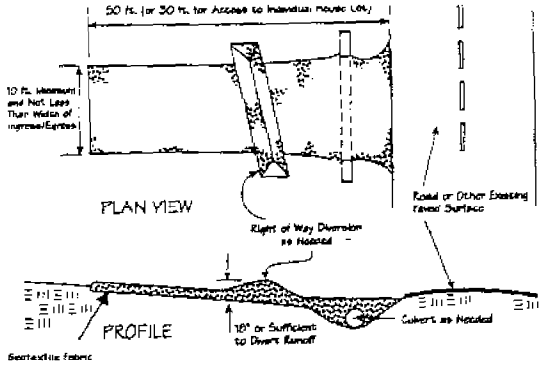
Mulching
Straw-mulch shall be applied at a rate of 1 bale per every ten (10) feet of curb, at a width of thirty (30) feet of the entire length of the lot. *Wood chips* may also be used but must be spread at a minimum depth of four inches over the thirty-foot width and must be accompanied by a properly installed silt fence.

Maintenance
Erosion and sediment controls shall be inspected every seven (7) days or within 24 hours of a 0.5" or greater rainfall event. Necessary repairs shall be made at this time.

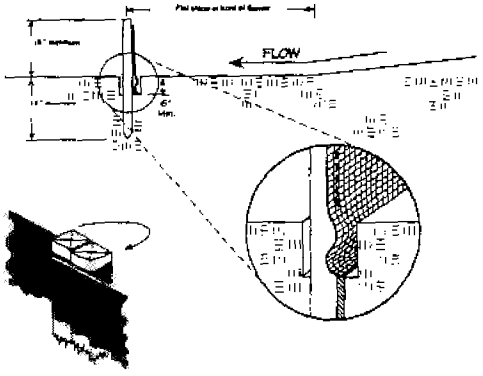
Note:
All erosion and sediment control specifications, applications, and timetables are based of the descriptions and standards of The Ohio Department of Natural Resources "Rainwater and Land Development Manual" and can be found in the Lake County Erosion and Sediment Control Rules as adopted December 21, 1999.

The specified erosion and sediment control standards are general guidelines and shall not limit the right of the county to impose, at any time, additional, more stringent requirements. Nor shall the standards limit the right of the county to

Construction Entrance Detail



Silt Fence Detail



Temporary Seeding Specifications

Seeding Dates	Species	Lb./1,000 ft.²	Per Ac.
March 1 to August 15	Oats	3	4 bushel
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Perennial Ryegrass	1	40 lb.
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
August 16 to November 1	Rye	3	2 bushel
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Wheat	3	2 bushel
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
	Perennial Ryegrass	1	40 lb.
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
November 1 to Spring Seeding	Use mulch only, sodding practices or dormant seeding.		

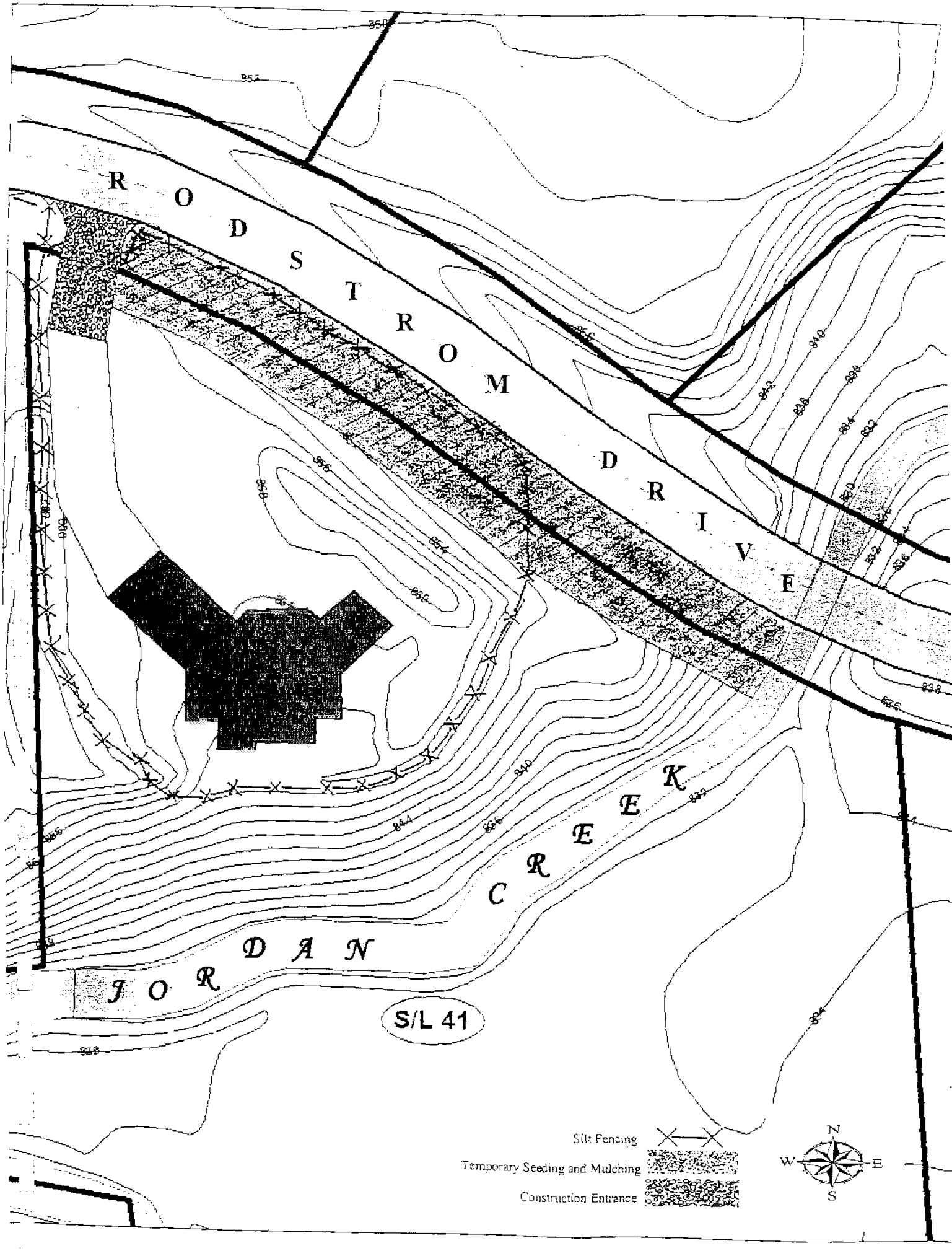
Note: Other approved seed species may be substituted.

Lake County Soil & Water Conservation District

125 East Erie Street
Painesville, Ohio 44077

Phone: (440) 350-2730
Fax: (440) 350-2601

www.lakecountyohio.org/soil


R O D S T R O M D R I V E
C R E E K
J O R D A N
S/L 41
Silt Fencing
Temporary Seeding and Mulching
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APPENDIX E

Sample Maintenance Plan

Maintenance Plan and Budget

Sample Maintenance Plan and Budget

"XYZ" Leasing Company

Storm Water Management System Maintenance Plan

1. Responsibility For Maintenance
   a. During construction, it is the developer's responsibility to perform the maintenance.
   b. Following construction, it will be the responsibility of "XYZ" Company to perform the maintenance.
   c. The Master Deed will specify that routine maintenance of the storm water facilities must be completed within ___ days of receipt of written notification that action is required, unless other acceptable arrangements are made with the (Township of _____), (Washtenaw County Drain Commissioner) or successors. Emergency maintenance (i.e. when there is endangerment to public health, safety or welfare) shall be performed immediately upon receipt of written notice. Should "XYZ" Company fail to act within these time frames, the (Township) (County) or successors may perform the needed maintenance and assess the costs against "XYZ" Company.

2. Source Of Financing
   "XYZ" Company is required to pay for all maintenance activities on a continuing basis.

3. Maintenance Tasks And Schedule

a. See the charts on the next two pages: The first describes maintenance tasks during construction to be performed by the developer, the second describes maintenance tasks by "XYZ" Company.
b. Immediately following construction, the developer will have the storm water management system inspected by an engineer to verify grades of the detention and filtration areas and make recommendations for any necessary sediment removal.

MAINTENANCE TASKS AND SCHEDULE DURING CONSTRUCTION
Components

Tasks	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Casings	Channels	Outflow control Structures	Rip-Rap	Filtration Basins	Storm Detention Areas	Wetlands	Emergency Overflow	Emergency Overflow	Schedule
Inspect for sediment accumulation				X	X		X	X				Weekly
Removal of sediment accumulation				X	X		X	X				As needed & prior t turnover
Inspect for floatables and debris				X	X		X	X				Quarterly
Cleaning of floatables and debris				X	X		X	X				Quarterly & at turnover
Inspection for erosion				X	X		X	X				Weekly
Re-establish permanent vegetation on eroded slopes				X			X	X				As needed & prior to turnover
Replacement of Stone					X							As needed*
Mowing				X			X	X				0 to 2 times per year
Inspect Structural elements during wet weather and compare to as-built plans (by professional engineer reporting to the developer)				X	X		X	X				Annually and a turnover
Make adjustments or replacements as determined by pre-turnover inspection				X	X		X	X				As needed

PERMANENT MAINTENANCE TASKS AND SCHEDULE

Components

Tasks	Catch Basin Inlet Casings	Ditches & Swales	Outflow control Structures	Rip-Rap	Filtration Basins	Storm Detention Areas	Wetlands	Emergency Overflow	Schedule
Inspect for sediment accumulation		X	X		X	X			Annually
Removal of sediment accumulation		X	X		X	X			Every 2 years as needed
Inspect for floatables and debris	X	X	X		X	X			Annually
Cleaning of floatables and debris	X	X	X		X	X			Annually
Inspection for erosion		X	X		X	X			Annually
Re-establish permanent vegetation on eroded slopes		X			X	X			As needed
Replacement of Stone			X						Every 3-5 years as needed
Clean Streets									Semi-Annually
Mowing		X			X	X			0-2 times per year
Inspect Storm water system components during wet weather and compare to as-built plans (by professional engineer reporting to XYZ Co.)	X	X	X	X	X	X	X	X	Annually
Make adjustments or replacements as determined by annual wet weather inspection	X	X	X	X	X	X	X	X	As needed
Keep records of all inspections and maintenance activities and report to XYZ Company									Annually
Keep records of all costs for inspections, maintenance and repairs. Report to XYZ.									Annually

I. Maintenance Plan Budget

Annual inspection for sediment accumulation	$100.00
Removal of sediment accumulation every 2 years as needed	$500.00
Inspect for floatables and debris annually and after major storms	$100.00
Removal of floatables and debris annually and after major storms	$150.00
Inspect system for erosion annually and after major storms	$100.00
Re-establish permanent vegetation on eroded slopes as needed	$350.00
Replacement of stone	$100.00
Mowing 0-2 times per year	$400.00
Inspect structural elements during wet weather and compare to as-built plans every 2 years	$150.00
Make structural adjustments or replacements as determined by inspection as needed	$400.00
Have professional engineer carry out emergency inspections upon identification of severe problems	$200.00
A. Total Annual Budget	**$2,550.00**

Note: Maintenance Plans and budgets vary widely due to the size and unique characteristics of each storm water management system proposed. Appendix P is intended for use as a starting point in the development of an appropriate maintenance plan specific to the size and components of each system.

APPENDIX F

General Construction Permit

OHIO ENVIRONMENTAL PROTECTION AGENCY

AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et. seq. hereafter referred to as "the Act") and the Ohio Water Pollution Control Act [Ohio Revised Code ("ORC") Chapter 6111], dischargers of storm water from sites where construction activity is being conducted, as defined in Part I.B of this permit, are authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA," to discharge from the outfalls at the sites and to the receiving surface waters of the state identified in their Notice of Intent ("NOI") application form on file with Ohio EPA in accordance with the conditions specified in Parts I through VII of this permit.

This permit is conditioned upon payment of applicable fees, submittal of a complete NOI application form and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-06.

Original signed by Christopher Jones

Christopher Jones
Director

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio.

B. Eligibility.

1. Construction activities covered. Except for storm water discharges identified under Part I.B.2, this permit may cover all new and existing discharges composed entirely of storm water discharges associated with construction activity that enter surface waters of the state or a storm drain leading to surface waters of the state.

   For the purposes of this permit, construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb the threshold acreage described in the next paragraph. Discharges from trench dewatering are also covered by this permit as long as the dewatering activity is carried out in accordance with the practices outlined in Part III.G.2.g.iv of this permit.

   Prior to March 10, 2003, only construction activities disturbing five or more acres of total land were required to obtain NPDES construction storm water permit coverage. On and after March 10, 2003, construction activities disturbing one or more acres of total land will be eligible for coverage under this permit. The threshold acreage includes the entire area disturbed in the larger common plan of development or sale.

   This permit also authorizes storm water discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

   a. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of storm water associated with construction activity;

   b. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;

   c. Appropriate controls and measures are identified in a storm water pollution prevention plan (SWP3) covering the discharges from the support activity; and

   d. The support activity is on or contiguous with the property defined in the NOI;

Part I.B

2. Limitations on coverage. The following storm water discharges associated with construction activity are not covered by this permit:

   a. Storm water discharges that originate from the site after construction activities have been completed, including any temporary support activity, and the site has achieved final stabilization. Industrial post-construction storm water discharges may need to be covered by an NPDES permit;

   b. Storm water discharges associated with construction activity that the director has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and

   c. Storm water discharges authorized by an individual NPDES permit or another NPDES general permit;

3. Waivers. After March 10, 2003, sites whose larger common plan of development or sale have at least one, but less than five acres of land disturbance, which would otherwise require permit coverage for storm water discharges associated with construction activities, may request that the director waive their permit requirement. Entities wishing to request such a waiver must certify in writing that the construction activity meets one of the two the waiver conditions:

   a. **Rainfall erosivity waiver.** For a construction site to qualify for the rainfall erosivity waiver, the cumulative rainfall erosivity over the project duration must be five or less and the site must be stabilized with at least a 70 percent vegetative cover or other permanent, non-erosive cover. The rainfall erosivity must be calculated according to the method in U.S. EPA Fact Sheet 3.1 Construction Rainfall Erosivity Waiver dated January 2001. If it is determined that a construction activity will take place during a time period where the rainfall erosivity factor is less than five, a written waiver certification must be submitted to Ohio EPA at least 21 days before construction activity is scheduled to begin. If the construction activity will extend beyond the dates specified in the waiver certification, the operator must either: (a) recalculate the waiver using the original start date with the new ending date (if the R factor is still less than five, a new waiver certification must be submitted) or (b) submit an NOI application form and fee for coverage under this general permit at least seven days prior to the end of the waiver period (see Attachment A); or

Part I.B.3

b. **TMDL (Total Maximum Daily Load) waiver.** Storm water controls are not needed based on a TMDL approved or established by U.S. EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the director of Ohio EPA that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis. A written waiver certification must be submitted to Ohio EPA at least 21 days before the construction activity is scheduled to begin.

4. Prohibition on non-storm water discharges. All discharges covered by this permit must be composed entirely of storm water with the exception of the following: discharges from fire fighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water from trench or well point dewatering and foundation or footing drains where flows are not contaminated with process materials such as solvents. Dewatering activities must be done in compliance with Part III.G.2.g.iv of this permit. Discharges of material other than storm water or the authorized non-storm water discharges listed above must comply with an individual NPDES permit or an alternative NPDES general permit issued for the discharge.

   Except for flows from fire fighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with construction activity must be identified in the SWP3. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

Part I.B

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302. In the event of a spill or other unintended release, the discharge of hazardous substances in the storm water discharge(s) from a construction site must be minimized in accordance with the applicable storm water pollution prevention plan for the construction activity and in no case, during any 24-hour period, may the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.

   40 CFR Part 117 sets forth a determination of the reportable quantity for each substance designated as hazardous in 40 CFR Part 116. The regulation applies to quantities of designated substances equal to or greater than the reportable quantities, when discharged to surface waters of the state. 40 CFR Part 302 designates under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, those substances in the statutes referred to in section 101(14), identifies reportable quantities for these substances and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act (CWA).

C. Requiring an individual NPDES permit or an alternative NPDES general permit.

1. The director may require an alternative permit. The director may require any operator eligible for this permit to apply for and obtain either an individual NPDES permit or coverage under an alternative NPDES general permit in accordance with OAC Rule 3745-38-04. Any interested person may petition the director to take action under this paragraph.

   The director will send written notification that an alternative NPDES permit is required. This notice shall include a brief statement of the reasons for this decision, an application form and a statement setting a deadline for the operator to file the application. If an operator fails to submit an application in a timely manner as required by the director under this paragraph, then coverage, if in effect, under this permit is automatically terminated at the end of the day specified for application submittal.

Part I.C

2. Operators may request an individual NPDES permit. Any owner or operator eligible for this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request to the director in accordance with the requirements of 40 CFR 122.26. If the reasons adequately support the request, the director shall grant it by issuing an individual NPDES permit.

3. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

D. Permit requirements when portions of a site are sold

If an operator obtains a permit for a development, and then the operator (permittee) sells off lots or parcels within that development, permit coverage must be continued on those lots until a Notice of Termination (NOT) in accordance with Part IV.B is submitted. For developments which require the use of centralized sediment and erosion controls (i.e., controls that address storm water runoff from one or more lots) for which the conveyance of permit coverage for a portion of the development will either prevent or impair the implementation of the controls and therefore jeopardize compliance with the terms and conditions of this permit, the permittee will be required to maintain responsibility for the implementation of those controls. For developments where this is not the case, it is the permittee's responsibility to temporarily stabilize all lots sold to individual lot owners unless an exception is approved in accordance with Part III.G.4. In cases where permit coverage for individual lot(s) will be conveyed, the permittee shall inform the individual lot owner of the obligations under this permit and ensure that the Individual Lot NOI application is submitted to Ohio EPA.

Part I

E. Authorization

1. Obtaining authorization to discharge. Operators that discharge storm water associated with construction activity must submit an NOI application form in accordance with the requirements of Part II of this permit to obtain authorization to discharge under this general permit. As required under OAC Rule 3745-38-06(E), the director, in response to the NOI submission, shall notify the applicant in writing that he/she has been granted general permit coverage to discharge storm water associated with construction activity under the terms and conditions of this permit or that the applicant must apply for an individual NPDES permit or coverage under an alternate general NPDES permit as described in Part I.C.1.

2. No release from other requirements. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. Other permit requirements commonly associated with construction activities include, but are not limited to, section 401 water quality certifications, isolated wetland permits, permits to install sanitary sewers or other devices that discharge or convey polluted water, permits to install drinking water lines, single lot sanitary system permits and disturbance of land which was used to operate a solid or hazardous waste facility (i.e., coverage under this NPDES general permit does not satisfy the requirements of OAC Rule 3745-27-13 or ORC Section 3734.02(H)). This permit does not relieve the permittee of other responsibilities associated with construction activities such as contacting the Ohio Department of Natural Resources, Division of Water, to ensure proper well installation and abandonment of wells.

Part II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for notification.

Initial coverage: Operators who intend to obtain initial coverage for a storm water discharge associated with construction activity under this general permit must submit a complete and accurate NOI application form and appropriate fee at least 21 days prior to the commencement of construction activity. If more than one operator, as defined in Part VII of this general permit, will be engaged at a site, each operator shall seek coverage under this general permit. Where one operator has already submitted an NOI prior to other operator(s) being identified, the additional operator shall request modification of coverage to become a co-permittee. In such instances, the co-permittees shall be covered under the same facility permit number. No additional permit fee is required.

Part II.A

Individual lot transfer of coverage: Operators must each submit an individual lot notice of intent (Individual Lot NOI) application form (no fee required) to Ohio EPA at least seven days prior to the date that they intend to accept responsibility for permit requirements for their portion of the original permitted development from the previous permittee. The original permittee may submit an Individual Lot NOT at the time the Individual Lot NOI is submitted. Transfer of permit coverage is not granted until an approval letter from the director of Ohio EPA is received by the applicant.

B. Failure to notify.

Operators who fail to notify the director of their intent to be covered and who discharge pollutants to surface waters of the state without an NPDES permit are in violation of ORC Chapter 6111. In such instances, Ohio EPA may bring an enforcement action for any discharges of storm water associated with construction activity.

C. Where to submit an NOI.

Operators seeking coverage under this permit must submit a signed NOI form, provided by Ohio EPA, to the address found in the associated instructions.

D. Additional notification.

The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, local agencies approving sediment and erosion control plans, grading plans or storm water management plans, local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator that discharges to an NPDES permitted MS4 shall provide a copy of its Ohio EPA NOI submission to the MS4 in accordance with the MS4's requirements, if applicable.

E. Renotification.

Upon renewal of this general permit, the permittee is required to notify the director of his intent to be covered by the general permit renewal. Permittees covered under the previous NPDES general permit for storm water discharges associated with construction activity (NPDES permit number OHR100000) shall have continuing coverage under this permit. The permittees covered under OHR100000 shall submit a letter within 90 days of receipt of written notification by Ohio EPA expressing their intent that coverage be continued. There is no fee associated with these letters of intent for continued coverage. Permit coverage will be terminated after the 90-day period if the letter is not received by Ohio EPA. Ohio EPA will provide instructions on the contents of the letter and where it is to be sent within the notification letter.

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Storm Water Pollution Prevention Plans.

A SWP3 shall be developed for each site covered by this permit. For a multi-phase construction project, a separate NOI shall be submitted when a separate SWP3 will be prepared for subsequent phases. SWP3s shall be prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The SWP3 shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activities. In addition, the SWP3 shall describe and ensure the implementation of best management practices (BMPs) that reduce the pollutants in storm water discharges during construction and pollutants associated with post-construction activities to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

A SWP3 shall be completed prior to the timely submittal of an NOI and updated in accordance with Part III.D. Upon request and good cause shown, the director may waive the requirement to have a SWP3 completed at the time of NOI submission. If a waiver has been granted, the SWP3 must be completed prior to the initiation of construction activities. The SWP3 must be implemented upon initiation of construction activities.

Permittees continuing coverage from the previous generation of this permit (OHR100000) that have initiated construction activity prior to the receipt of written notification from Ohio EPA to submit a letter of intent to continue coverage, as required in Part II.E, are not required to update their SWP3 as a result of this renewal (OHC000002). All permittees developing sites with coverage under OHR100000 that seek continuation of coverage do not need to update the post-construction section of their SWP3 as required in Part III.G.2.e of this permit.

C. SWP3 Signature and Review.

1. Plan Signature and Retention On Site. The SWP3 shall be signed in accordance with Part V.G. and retained on site during working hours.

2. Plan Availability

   a. On-site: The plan shall be made available immediately upon request of the director or his authorized representative during working hours. A copy of the NOI and letter granting permit coverage under this general permit also shall be made available at the site.

Part III.C.2

b. By written request: The permittee must provide a copy of the SWP3 within 10 days upon written request of any of the following:

i. The director or the director's authorized representative;

ii. A local agency approving sediment and erosion plans, grading plans or storm water management plans; or

iii. In the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system.

c. To the public: All NOIs, general permit approval for coverage letters, and SWP3s are considered reports that shall be available to the public in accordance with the Ohio Public Records law. The permittee shall make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, the permittee may claim to Ohio EPA any portion of an SWP3 as confidential in accordance with Ohio law.

3. Plan Revision. The director or authorized representative, may notify the permittee at any time that the SWP3 does not meet one or more of the minimum requirements of this part. Within 10 days after such notification from the director, (or as otherwise provided in the notification) or authorized representative, the permittee shall make the required changes to the SWP3 and, if requested, shall submit to Ohio EPA the revised SWP3 or a written certification that the requested changes have been made.

D. Amendments

The permittee shall amend the SWP3 whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the state or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity. Amendments to the SWP3 may be reviewed by Ohio EPA in the same manner as Part III.C.

Part III

E. Duty to inform contractors and subcontractors

The permittee shall inform all contractors and subcontractors not otherwise defined as "operators" in Part VII of this general permit, who will be involved in the implementation of the SWP3, of the terms and conditions of this general permit. The permittee shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document shall be created and signatures shall be obtained prior to commencement of work on the construction site.

F. Total Maximum Daily Load (TMDL) allocations

If a TMDL is approved for any waterbody into which the permittee's site discharges and requires specific BMPs for construction sites, the director may require the permittee to revise his/her SWP3.

G. SWP3 Requirements

Operations that discharge storm water from construction activities are subject to the following requirements and the SWP3 shall include the following items:

1. Site description. Each SWP3 shall provide:

    a. A description of the nature and type of the construction activity (e.g., low density residential, shopping mall, highway, etc.);

    b. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas);

    c. A calculation of the runoff coefficients for both the pre-construction and post construction site conditions;

    d. An estimate of the impervious area and percent imperviousness created by the construction activity;

    e. Existing data describing the soil and, if available, the quality of any discharge from the site;

    f. A description of prior land uses at the site;

Part III.G.1

g. An implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;

h. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s) and the areal extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project;

i. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.

   This does not remove the responsibility to designate specific erosion and sediment control practices in the SWP3 for critical areas such as steep slopes, stream banks, drainage ways and riparian zones.

j. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges;

k. A copy of the permit requirements (attaching a copy of this permit is acceptable); and

l. Site map showing:

   i. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3;

   ii. Soils types should be depicted for all areas of the site, including locations of unstable or highly erodible soils;

   iii. Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres;

Part III.G.1.l

iv. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;

v. Existing and planned locations of buildings, roads, parking facilities and utilities;

vi. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development;

vii. Sediment and storm water management basins noting their sediment settling volume and contributing drainage area;

viii. Permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed.

ix. Areas designated for the storage or disposal of solid, sanitary and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling;

x. The location of designated construction entrances where the vehicles will access the construction site;

xi. The location of any in-stream activities including stream crossings;

2. Controls. The SWP3 must contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) must implement such controls. The SWP3 must clearly describe for each major construction activity identified in Part III.G.1.g: (a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which contractor is responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). Ohio EPA recommends that the erosion, sediment, and storm water management practices used to satisfy the conditions of this permit, should meet the standards and specifications in the current edition of Ohio's Rainwater and Land Development (see definitions) manual or other standards acceptable to Ohio EPA. The controls shall include the following minimum components:

Part III.G.2

a. **Non-Structural Preservation Methods.** The SWP3 must make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving riparian areas adjacent to surface waters of the state, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. The recommended buffer that operators should leave undisturbed along a surface water of the state is 25 feet as measured from the ordinary high water mark of the surface water.

b. **Erosion Control Practices.** The SWP3 must make use of erosion controls that are capable of providing cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to restabilize disturbed areas after grading or construction shall be included in the SWP3. The SWP3 must provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances and the use of alternative ground cover.

i. **Stabilization.** Disturbed areas must be stabilized as specified in the following tables below. Permanent and temporary stabilization are defined in Part VII.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a stream and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Part III.G.2.b.i

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a stream and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 days but less than one year, and not within 50 feet of a stream	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.

ii. **Permanent stabilization of conveyance channels**. Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the 1996 edition of the Rainwater and Land Development manual), mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques or rock check dams.

c. **Runoff Control Practices.** The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable.

d. **Sediment Control Practices.** The plan shall include a description of structural practices that shall store runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, silt fences, earth diversion dikes or channels which direct runoff to a sediment settling pond and storm drain inlet protection. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond.

Part III.G.2.d

The SWP3 must contain detail drawings for all structural practices.

i. Timing. Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven days from the start of grubbing. They shall continue to function until the up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns.

ii. Sediment settling ponds. Concentrated storm water runoff and runoff from drainage areas, which exceed the design capacity of silt fence or inlet protection, shall pass through a sediment settling pond. For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment settling pond must be provided until final stabilization of the site. The permittee may request approval from Ohio EPA to use alternative controls if it can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond. It is recommended for drainage locations serving less than 10 acres, smaller sediment basins and/or sediment traps should be used.

The sediment settling pond shall be sized to provide at least 67 cubic yards of storage per acre of total contributing drainage area. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the sediment settling pond must be less than or equal to five feet. The configuration between inlets and the outlet of the basin must provide at least two units of length for each one unit of width (> 2:1 length:width ratio). Sediment must be removed from the sediment settling pond when the design capacity has been reduced by 40 percent (This is typically reached when sediment occupies one-half of the basin depth). When designing sediment settling ponds, the permittee must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls must be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

Part III.G.2.d

iii. Silt Fence and Diversions. Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour. This permit does not preclude the use of other sediment barriers designed to control sheet flow runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in the table below.

Maximum drainage area (in acres) to 100 linear feet of silt fence	**Range of slope for a particular drainage area (in percent)**
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

iv. Inlet Protection. Other erosion and sediment control practices shall minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond.

v. Stream Protection. If construction activities disturb areas adjacent to streams, structural practices shall be designed and implemented on site to protect all adjacent streams from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond in-stream) shall be used in a stream. For all construction activities immediately adjacent to surface waters of the state, it is recommended that a setback of at least 25-feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer. Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the setback area are minimized.

vi. Modifying Controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site conditions.

Part III.G.2

e. **Post-Construction Storm Water Management Requirements.** So that receiving stream's physical, chemical, and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 must contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale must address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality.

Detail drawings and maintenance plans must be provided for all post-construction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). For sites located within a community with a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4. Maintenance plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations. Permittees, except for those regulated under the small MS4 program, are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

This permit does not preclude the use of innovation or experimental post-construction storm water management technologies. However, the director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. The installation of structural controls in certain scenarios may also require a separate permit under section 404 of the CWA. Permittees are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site and are not responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site. However, post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit.

Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects must be designed to minimize the number of stream crossings and the width of disturbance.

Part III.G.2.e

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. Structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQ_v) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQ_v shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to one of the two following methods:

i. Through a site hydrologic study approved by the local municipal permitting authority that uses continuous hydrologic simulation and local long-term hourly precipitation records or

ii. Using the following equation:

$WQ_v = C * P * A / 12$
where:
WQ_v = water quality volume in acre-feet
C = runoff coefficient appropriate for storms less than 1 inch (see Table 1)
P = 0.75 inch precipitation depth
A = area draining into the BMP in acres

Table 1
Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows (0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35.

Part III.G.2.e

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage and/or reduced infiltration capacity. Ohio EPA recommends that BMPs be designed according to the methodology included in the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage available for successive rainfall events as described in Table 2 below.

Table 2
Target Draw Down (Drain) Times for Structural Post-Construction Treatment Control Practices

Best Management Practice	Drain Time of WQ_v
Infiltration	24 - 48 hours
Vegetated Swale and Filter Strip	24 hours
Extended Detention Basin (Dry Basins)	48 hours
Retention Basins (Wet Basins)*	24 hours
Constructed Wetlands (above permanent pool)	24 hours
Media Filtration, Bioretention	40 hours

* Provide both a permanent pool and an extended detention volume above the permanent pool, each sized at 0.75 * WQ_v

The permittee may request approval from Ohio EPA to use alternative structural post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. Construction activities shall be exempt from this condition if it can be demonstrated that the WQ_v is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. Public entities (i.e., the state, counties, townships, cities, or villages) shall comply with the post-construction storm water management requirements of Part III.G.2.e for roadway construction projects initiated after March 10, 2006 and where practicable for projects initiated as of the effective date of this permit and thereafter.

For redevelopment projects (i.e., developments on previously developed property), post-construction practices shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQ_v, or a combination of the two.

Part III.G.2.e

Small Construction Activities. For all small land disturbance activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Structural measures should be placed on upland soils to the degree attainable.

i. Such practices may include, but are not limited to: storm water detention structures (including wet basins); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The SWP3 shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

ii. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

f. **Surface Water Protection.** If the project site contains any streams, rivers, lakes, wetlands or other surface waters, certain construction activities at the site may be regulated under the CWA and/or state isolated wetland permit requirements. Sections 404 and 401 of the Act regulate the discharge of dredged or fill material into surface waters and the impacts of such activities on water quality, respectively. Construction activities in surface waters which may be subject to CWA regulation and/or state isolated wetland permit requirements include, but are not limited to: sewer line crossings, grading, backfilling or culverting streams, filling wetlands, road and utility line construction, bridge installation and installation of flow control structures. If the project contains streams, rivers, lakes or wetlands or possible wetlands, the permittee must contact the appropriate U.S. Army Corps of Engineers District Office. (CAUTION: Any area of seasonally wet hydric soil is a potential wetland - please consult the Soil Survey and list of hydric soils for your County, available at your county's Soil and Water Conservation District. If you have any questions about Section 401 water quality certification, please contact the Ohio Environmental Protection Agency, Section 401 Coordinator.)

Part III.G.2.f

U.S. Army Corps of Engineers (Section 404 regulation):
Huntington, WV District (304) 529-5210 (Muskingum, Hocking and Scioto River Basin)
Buffalo, NY District (716) 879-4329 (Lake Erie Basin)
Pittsburgh, PA District (412) 395-7152 (Mahoning River Basin)
Louisville, KY District (502) 315-6678 (Little & Great Miami River Basin)

Ohio Environmental Protection Agency (Section 401 regulation):
Columbus, OH (614) 644-2001 (all of Ohio)

g. **Other controls.**

i. **Non-Sediment Pollutant Controls.** No solid (other than sediment) or liquid waste, including building materials, shall be discharged in storm water runoff. The permittee must implement all necessary BMPs to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state. Under no circumstance shall concrete trucks wash out directly into a drainage channel, storm sewer or surface waters of the state. No exposure of storm water to waste materials is recommended.

ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized.

iii. **Compliance with other requirements.** The SWP3 shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.

iv. **Trench and ground water control**. There shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground water contains sediment, it must pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

Part III.G.2

h. **Maintenance.** All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control practices must be maintained in a functional condition until all up slope areas they control are permanently stabilized. The SWP3 shall be designed to minimize maintenance requirements. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices.

i. **Inspections.** At a minimum, procedures in an SWP3 shall provide that all controls on the site are inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The permittee shall assign qualified inspection personnel (those with knowledge and experience in the installation and maintenance of sediment and erosion controls) to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule proposed in Part III.G.1.g of this permit or whether additional control measures are required. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that those are operating correctly. Discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

The permittee shall maintain for three years following the submittal of a notice of termination form, a record summarizing the results of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3 and a certification as to whether the facility is in compliance with the SWP3 and the permit and identify any incidents of non-compliance. The record and certification shall be signed in accordance with Part V.G. of this permit.

i. **When practices require repair or maintenance.** If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three days of the inspection. Sediment settling ponds must be repaired or maintained within 10 days of the inspection.

Part III.G.2.i

ii. **When practices fail to provide their intended function.** If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the SWP3 must be amended and the new control practice must be installed within 10 days of the inspection.

iii. **When practices depicted on the SWP3 are not installed.** If the inspection reveals that a control practice has not been implemented in accordance with the schedule contained in Part III.G.1.g of this permit, the control practice must be implemented within 10 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record must contain a statement of explanation as to why the control practice is not needed.

3. **Approved State or local plans.** All dischargers regulated under this general permit must comply, except those exempted under state law, with the lawful requirements of municipalities, counties and other local agencies regarding discharges of storm water from construction activities. All erosion and sediment control plans and storm water management plans approved by local officials shall be retained with the SWP3 prepared in accordance with this permit. Applicable requirements for erosion and sediment control and storm water management approved by local officials are, upon submittal of a NOI form, incorporated by reference and enforceable under this permit even if they are not specifically included in an SWP3 required under this permit. When the project is located within the jurisdiction of a regulated municipal separate storm sewer system (MS4), the permittee must certify that the SWP3 complies with the requirements of the storm water management program of the MS4 operator.

4. **Exceptions.** If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this permit or site specific conditions are such that implementation of any erosion and sediment control practices contained in this permit will result in no environmental benefit, then the permittee shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards contained in this permit will be approved or denied on a case-by-case basis.

PART IV. NOTICE OF TERMINATION REQUIREMENTS

A. Failure to notify.

The terms and conditions of this permit shall remain in effect until a signed Notice of Termination (NOT) form is submitted. Failure to submit an NOT constitutes a violation of this permit and may affect the ability of the permittee to obtain general permit coverage in the future.

B. When to submit an NOT

1. Permittees wishing to terminate coverage under this permit must submit an NOT form in accordance with Part V.G. of this permit. Compliance with this permit is required until an NOT form is submitted. The permittee's authorization to discharge under this permit terminates at midnight of the day the NOT form is submitted.

2. All permittees must submit an NOT form within 45 days of completing all permitted land disturbance activities. Enforcement actions may be taken if a permittee submits an NOT form without meeting one or more of the following conditions:

    a. Final stabilization (see definition in Part VII) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);

    b. Another operator(s) has assumed control over all areas of the site that have not been finally stabilized;

    c. For residential construction only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner. (Note: individual lots without housing which are sold by the developer must undergo final stabilization prior to termination of permit coverage.); or

    d. An exception has been granted under Part III.G.4.

C. How to submit an NOT

Permittees must use Ohio EPA's approved NOT form. The form must be completed and mailed according to the instructions and signed in accordance with Part V.G of this permit.

PART V. STANDARD PERMIT CONDITIONS.

A. Duty to comply.

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111. and is grounds for enforcement action.

2. Ohio law imposes penalties and fines for persons who knowingly make false statements or knowingly swear or affirm the truth of a false statement previously made.

B. Continuation of an expired general permit.

An expired general permit continues in force and effect until a new general permit is issued.

C. Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to provide information.

The permittee shall furnish to the director, within 10 days of written request, any information which the director may request to determine compliance with this permit. The permittee shall also furnish to the director upon request copies of records required to be kept by this permit.

F. Other information.

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, SWP3, NOT or in any other report to the director, he or she shall promptly submit such facts or information.

Part V

G. Signatory requirements.

All NOIs, NOTs, SWP3s, reports, certifications or information either submitted to the director or that this permit requires to be maintained by the permittee, shall be signed.

1. These items shall be signed as follows:

    a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        i. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation; or

        ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

    b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

    c. For a municipality, State, Federal or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

2. All reports required by the permits and other information requested by the director shall be signed by a person described in Part V.G.1 of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

Part V.G.2

a. The authorization is made in writing by a person described in Part V.G.1 of this permit and submitted to the director;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator of a well or well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

c. The written authorization is submitted to the director.

3. Changes to authorization. If an authorization under Part V.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2 of this permit must be submitted to the director prior to or together with any reports, information or applications to be signed by an authorized representative.

H. Certification.

Any person signing documents under this section shall make the following certification:

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

I. Oil and hazardous substance liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the CWA or 40 CFR Part 112. 40 CFR Part 112 establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable surface waters of the State or adjoining shorelines.

Part V

J. Property rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability.

The provisions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

L. Transfers.

Ohio NPDES general permit coverage is transferable. Ohio EPA must be notified in writing sixty days prior to any proposed transfer of coverage under an Ohio NPDES general permit. The transferee must inform Ohio EPA it will assume the responsibilities of the original permittee transferor.

M. Environmental laws.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

N. Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWP3s. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

O. Inspection and entry.

The permittee shall allow the director or an authorized representative of Ohio EPA, upon the presentation of credentials and other documents as may be required by law, to:

Part V.O

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

PART VI. REOPENER CLAUSE

A. If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the permittee of such discharge may be required to obtain coverage under an individual permit or an alternative general permit in accordance with Part I.C of this permit or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted according to ORC Chapter 6111.

PART VII. DEFINITIONS

A. "Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117 and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.

B. "Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the state. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

C. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill or excavating activities or other construction activities.

D. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.

E. "Director" means the director of the Ohio Environmental Protection Agency.

Part VII

F. "Discharge" means the addition of any pollutant to the surface waters of the state from a point source.

G. "Disturbance" means any clearing, grading, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.

H. "Final stabilization" means that either:

1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or

2. For individual lots in residential construction by either:

   a. The homebuilder completing final stabilization as specified above or

   b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters of the state and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.

I. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see parts I and II of this permit).

J. "Larger common plan of development or sale"- means a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

Part VII

K. "MS4" means municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:

1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as a sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the state; and

2. Designed or used for collecting or conveying solely storm water,

3. Which is not a combined sewer and

4. Which is not a part of a publicly owned treatment works.

L. "National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."

M. "NOI" means notice of intent to be covered by this permit.

N. "NOT" means notice of termination.

O. "Operator" means any party associated with a construction project that meets either of the following two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

2. The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with an SWP3 for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

As set forth in Part II.A, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.

P. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Part VII

Q. "Permanent stabilization" means the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.

R. "Percent imperviousness" means the impervious area created divided by the total area of the project site.

S. "Point source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

T. "Rainwater and Land Development" is a manual describing construction and post-construction best management practices and associated specifications. A copy of the manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil & Water Conservation.

U. "Riparian area" means the transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.

V. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

W. "Sediment settling pond" means a sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the Rainwater and Land Development manual.

X. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.

Y. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.

Z. "Surface waters of the state" or "water bodies" means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the ORC are not included.

Part VII

AA. "SWP3" means storm water pollution prevention plan.

BB. "Temporary stabilization" means the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.

CC. "Water Quality Volume (WQ_v)" means the volume of storm water runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQ_v is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

APPENDIX G

General Notes Files Available on Web Site